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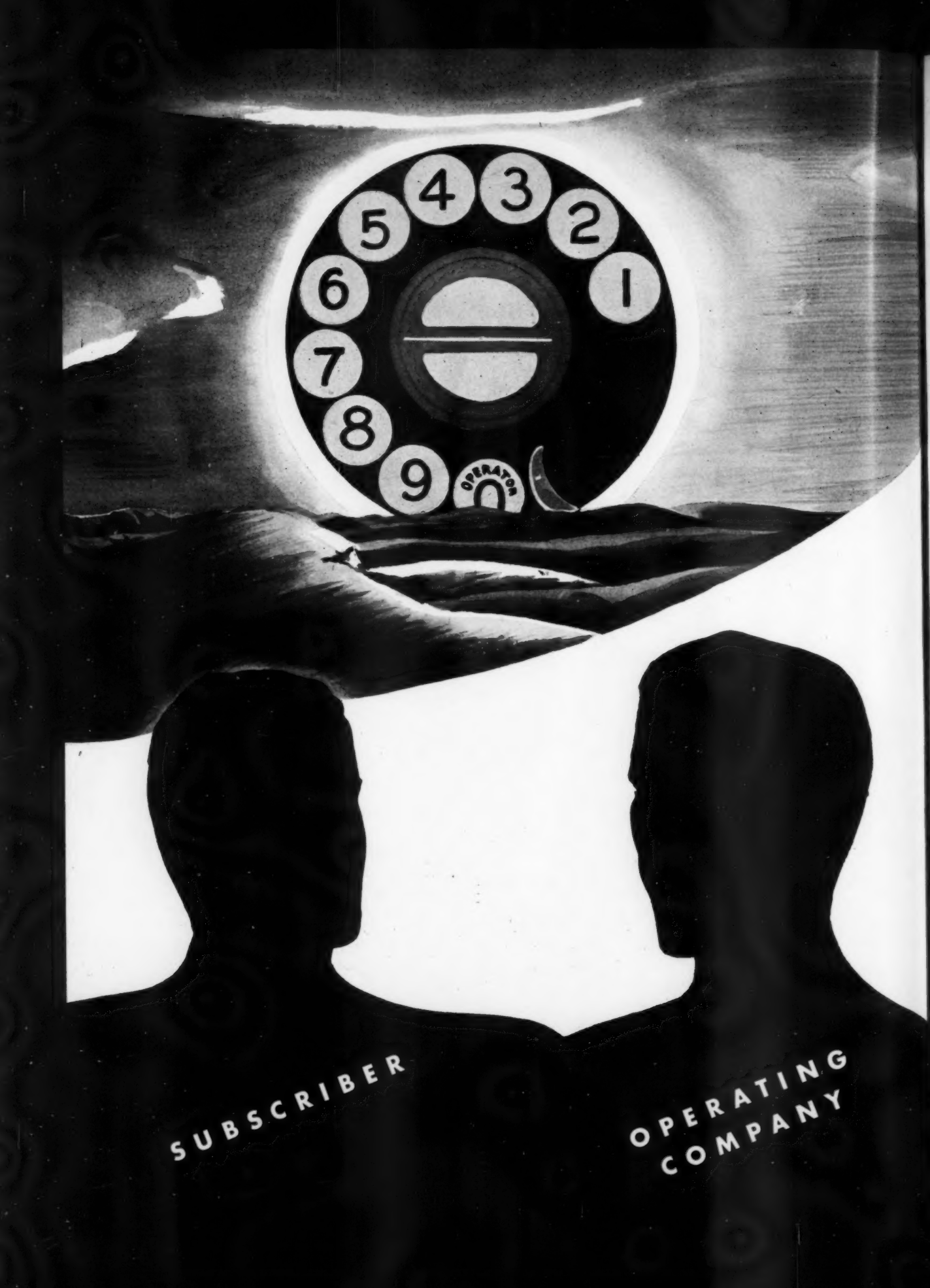
Telephony

JUL 28 1945

The Journal of the Telephone Industry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TELEPHONY

The Journal of the Telephone Industry

JULY 14, 1945

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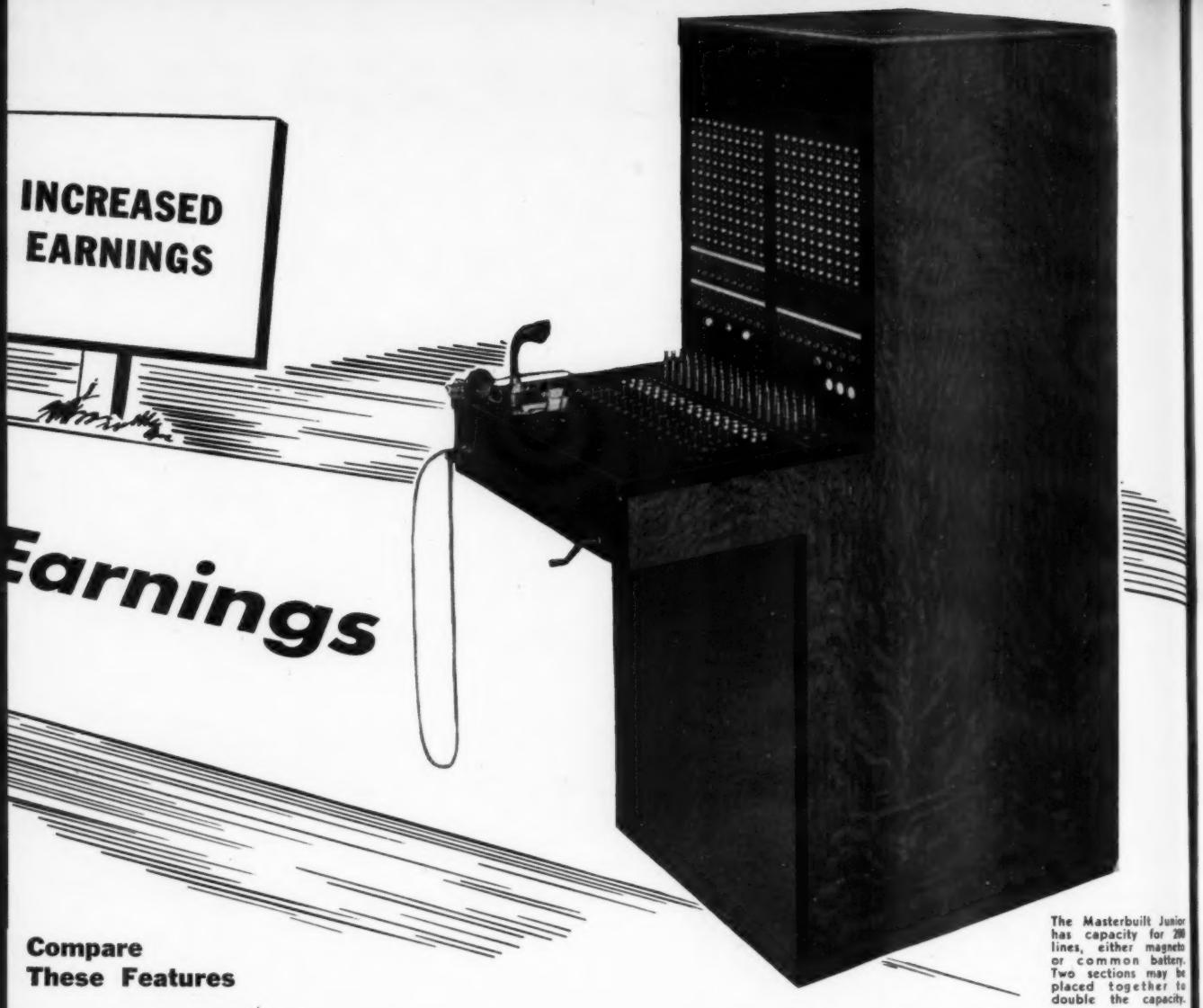

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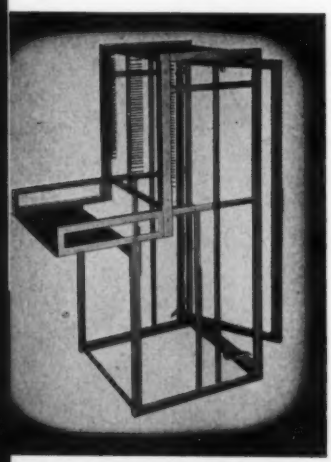

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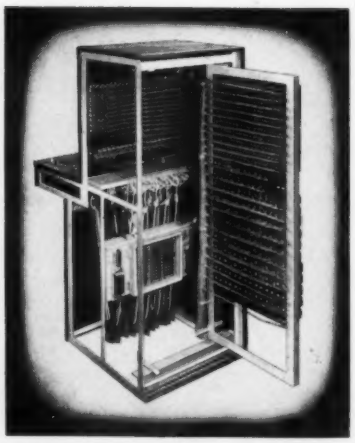

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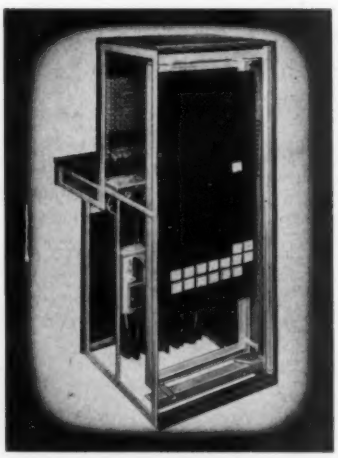

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EDITORIAL

Where Did This Company Come From?

AS A SEQUEL to John H. Agee's article, entitled "Where Will the Money Come from?" published in the June 30 issue of TELEPHONY, page 9, we would like to offer this story entitled "Where Did This Company Come From?"

According to a story in the Richmond (Va.) *Times-Dispatch*, in 1936, Dr. L. C. Bryan of Rutledge, Tenn., was forced to try and get along without telephone service when the telephone company then serving Rutledge was destroyed by fire, after it gradually had deteriorated and had become almost useless. Following the fire, the company declared bankruptcy.

No one was interested in restoring service and since Dr. Bryan found it impossible to do without a telephone, he took over the Rutledge (Tenn.) Telephone Co. Since that time, the company has grown from 36 to 195 subscribers and has added more than 200 miles of telephone wires.

"The company has shown a profit, all put back into the business," the doctor-owner said. "Now we are looking forward to the installation of a new dial system, and 30 new subscribers are awaiting it."

According to a story in the *Times-Dispatch*, the doctor said, "When we planned the new system, we sent out cards to 183 of our subscribers showing the plan for slightly increased rates. Only *one* person wouldn't agree."

Until recently, the Rutledge company had no legal standing; it had no franchise, it paid no taxes, and the rates were set at whatever the owner wished to charge. "Gradually we have been correcting these oversights," the doctor said.

"I believe the company started with just one line. Nobody thought to get a franchise and I doubt if it was necessary then. Almost as far back as I can remember, there was some sort of a telephone system in Rutledge," the 44-year-old physician said. "It grew and more telephones and lines were added, but still no one thought of it as a public utility of any kind, least of all one which required a franchise to make it legal. We have all of that cleared up now."

(The Tennessee Railroad & Public Utilities Commission recently granted the company permission to extend its lines and install the dial system.)

Dr. Bryan considers his telephone business a hobby and, when he isn't busy with his practice, he helps his one service-repair-installation man, C. Maples, survey new lines, set poles, install equipment or anything else that needs to be done.

"Running this telephone company hasn't always been a bed of roses, but we've had complete cooperation from the people of Grainger County. And we're proud that the county is getting better service now than ever," the doctor-manager said.

Accepting the newspaper report as accurate, one gets a very good answer to the question, "Where did this successful company come from?" It came from the untiring efforts of a far-seeing townsman who, we bet, didn't have to turn to government agencies for assistance.

ABC of the Telephone

By FRANK E. LEE

PART XIII. Relays continued. The 12th article in this series appeared in the July 7 issue, page 16.

IN TELEPHONE circuits there is a need for many different types of relays. Some of these relays will have individual external appearance while others may look alike and, still, have various different operating characteristics. A few of the separate types by which most relays may be classified are:

(1) Quick acting.
(2) Slow acting.
(3) Slow operating.
(4) Slow releasing.
(5) Marginal (close differential operation).
(6) Polarized.
(7) Alterating current.
(8) Delayed operation (dash pot).

Quick acting relays are used for all normal relay applications. Relays in

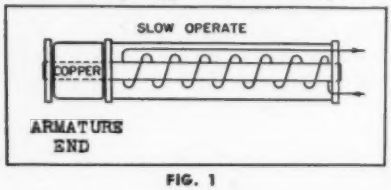


FIG. 1

this classification have coils generously wound with efficient magnetic circuits. There is nothing in the relay construction that will delay the magnetic field, either in building up or in disappearing. By taking advantage of adjustment possibilities in regard to armature-to-core air gap, generally termed the residual gap, and the tension of the contact springs, it is possible to attain the amazing operating speed of 0.002 seconds and releasing speed of 0.003 seconds.

Slow acting relays are designed so the core flux is slow in building up and slow in disappearing when the current has stopped. This result is obtained by using a secondary or short circuited winding. The secondary winding may be a regular winding without external connection clips, or it may be a single turn of wire with low resistance. In some instances, the secondary may be formed by a copper sleeve around the full length or part of the length of the core, while in others it may be merely a copper collar over one end of the core. Best slow acting results are gained by using a copper tube over the entire length of the core. The other arrangements are used to fulfill the need for varying stages of slow acting operation.

When the circuit to the main winding of the relay is closed, the expanding magnetic field induces a current in the secondary or short circuited winding. The current flow is similar to that which would occur in the closed secondary of a transformer. The magnetic field created by the current in the secondary winding would tend to oppose the field created by the main winding. The extra length of time needed for the main field to overcome the secondary field places the relay in the slow acting classification.

Similar conditions would exist when the main circuit is opened. In this instance, the field created by the current induced in the secondary winding would be in a direction to reinforce the original field and hold the relay operated because the flux would die out slowly.

A variation of the slow acting relay is the slow operating classification. In the slow operating group the relays, generally, have a large copper collar at the armature end of the core. *(Fig. 1.)* These coils are used with a relatively large armature gap and a heavy spring load. The copper collar retards the build-up of the flux; the large gap reduces the pull on the armature, and the heavy spring load makes it necessary for the main winding both to overcome the effect of the short circuit secondary (the collar) and to build the flux to full strength before the relay will operate. Because the flux must be at or near full strength before the relay pulls up, the armature will fall back to normal the instant the circuit of the main winding is opened.

The theory of the slow releasing relay closely follows that of the slow operating relay, however, the application is different. To provide a relay that is slow releasing, the winding of the coil, spring tension and armature gap must be selected so the final strength of the magnetizing force produced by the current through the operated relay is much greater than the releasing requirement. A slow releasing relay has a short circuited secondary winding in the form of a copper collar placed over

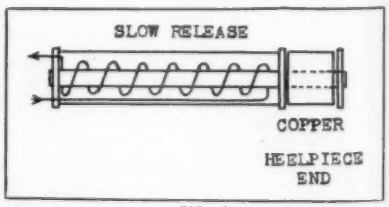


FIG. 2

the heel piece end of the coil *(Fig. 2)*. The armature gap is small. The tension of the contact springs is relatively light. In this case, upon opening the circuit the magnetizing force will not decrease sufficiently to allow the armature to fall back to normal until the delaying effect of the short circuited secondary has been overcome. Here, the

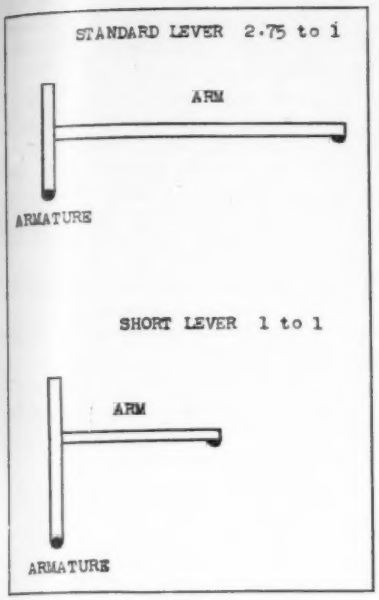


FIG. 3

object of the secondary is to retain the magnetic field for a time after the current in the coil has been interrupted.

Where it is desired to secure releasing delay, even greater than mentioned in the preceding paragraph, a special armature construction also can be employed, in which the effective length of the armature is the same as the length of the armature contact arm. This short lever, 1-to-1 ratio armature eliminates the approximately 2.75-to-1 mechanical advantages of the contact springs acting on a standard armature and tending to restore it to normal *(Fig. 3)*. Without a mechanical advantage, the springs are unable to restore the armature to normal until the magnetic field has died down to a considerably lower value. The release delay possible may be as much as three-tenths of a second, with two "break" spring combinations or even more. Another advantage of the short lever armature, for a given release time and contact spring load, is that the 1-to-1 ratio permits a larger armature gap setting, which is more permanent and also is free from sticking, or holding in an operated position for too long a time.

To another special group belong the marginal or close differential operation relays. These relays are required to release in response to a drop in coil current or voltage. This must hold true even though the coil circuit is not opened. In this classification are relays with a very critical releasing point.

Differing from the regular direct current type relay is the polarized relay in the construction of which a permanent magnet is used in addition to the electromagnet. As previously discussed, first in the installment on receivers and later in the installment on ringers and generators, an electromagnet can produce a field with a fixed polarity and strength so it momentarily can neutralize the field of the permanent magnet with which it is associated.

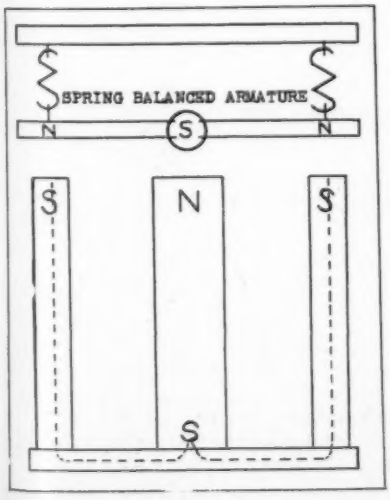


FIG. 4

The construction details of a polarized relay follow closely along the pattern of the polarized ringer except that the armature of the relay is held suspended by spring tension an equal distance from both of the south poles of the permanent magnet *(Fig. 4)*. Current in one direction through the coil would rotate the armature to the right. In the opposite direction the rotation would be to the left. The circuit is arranged at the control point to connect either positive or negative current to the coil, depending upon the direction it is desired to move the armature. The most extensive use of polarized relays is in coin collector mechanisms where the movement of the armature in one direction deposits the coin in the cash compartment, and in the opposite direction returns the coin. Polarized relays provide automatic protection against current reversals in battery charging and other similar circuits.

The alternating current relays are designed to compensate for the fact that an alternating current passes through a zero value during its cycle. Therefore, for an instant there is no current flowing to create a magnetic force. If an ordinary direct current relay were used on alternating current, the magnetism would come in spurts and the armature would tend to vibrate and chatter. One type of alternating current relay, known as the inertia type, has an armature heavy enough so it will not fall back during the instant the magnetic pull is released. Other general types use laminated cores, and closed secondary windings in the form of copper collars or rings to keep the magnetism flowing during the instant when the alternating current passes through its zero value. A laminated core is constructed of several layers of thin metal fastened together, rather than from a solid piece of material.

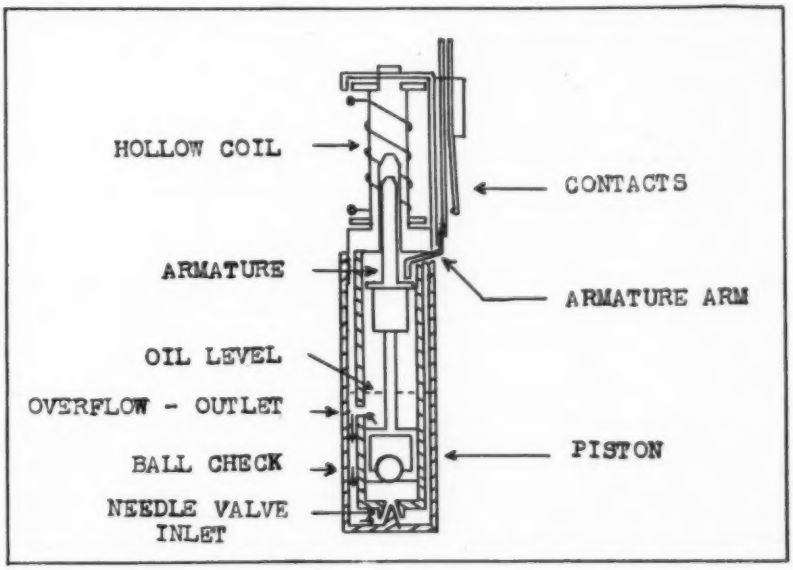


FIG. 5

In some circuits there is a need for a relay with an operating speed ranging from five seconds to three minutes on direct current, or five seconds to 1½ minutes on alternating current. The oil dash pot type generally is used for this purpose. The magnetic force of the coil pulls a plunger into a hollow coil (solenoid), against the resistance of the oil

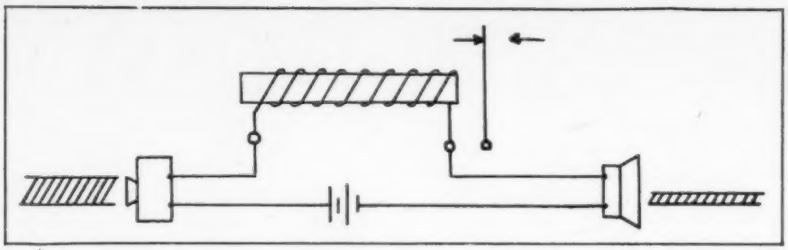


FIG. 6

in the dashpot cylinder. At the end of its stroke the plunger operates a set of contact springs. The speed of operation is controlled by turning the dashpot cylinder, which controls a needle valve within the cylinder. Upon opening the coil current, release is practically instantaneous because a ball check valve in the bottom of the cylinder opens to allow the plunger to move through the oil with little opposition. *(Fig. 5.)*

Dash pot relays may be used to open the local signaling circuit on key type telephone equipment when a continuous buzzer is placed in operation by means of an alternating current type relay which is pulled up by signal generator or alternating current. At the moment the buzzer starts to operate, the dash pot relay begins to pull up. If, after a predetermined time, the call on the line is not answered, and the calling party has hung up the receiver, the buzzer circuit will be opened by cut-off relays controlled by the operation of the dash pot relay. The operation of the cut-off relays will restore the entire circuit to normal, and then the equipment is ready to receive the next incoming call.

In many instances relays are used directly in circuits that must carry the fluctuating voice currents. The self inductance or retardation created by the relay coil opposes the voice currents and, as a result, the transmission loss would be very high *(Fig. 6)*.

Since the function of the circuit makes it necessary to place the relay in the talking circuit a by-pass must be provided over which the fluctuating voice currents can flow without the effects of retardation. The answer to the problem lies in placing a non-inductive winding on the core in addition to the required inductive winding. A non-inductive winding is formed by placing half of a certain length of the proper wire around the core in a clockwise direction, and then by placing the other half around the core in a counter-clockwise direction. When current passes through this winding it flows in one direction through half the coil and in the opposite direction through the other half.

Since the polarity of a magnetic field about a wire depends on the direction of the electric current, it can be seen that the field will be neutralized as the current flows in opposite directions through each half of the coil. A non-inductive winding will not create a magnetic field. Because this type of winding does not create a magnetic field it will not act as a retard coil. See *Fig. 7* in which the non-inductive winding is shown by its schematic symbol.

The inductive and non-inductive winding provide multiple or parallel paths over which the direct current flows to operate the relay. From this it can be seen that, if the current is reduced through the inductive winding by the addition of a non-inductive winding, the ampere turn ratio of the inductive winding can be maintained only by increasing the number of turns in the inductive coil. In this manner the relay will perform its function as an electrically operated switch, and, when necessary, can be adapted for use directly in a talking circuit.

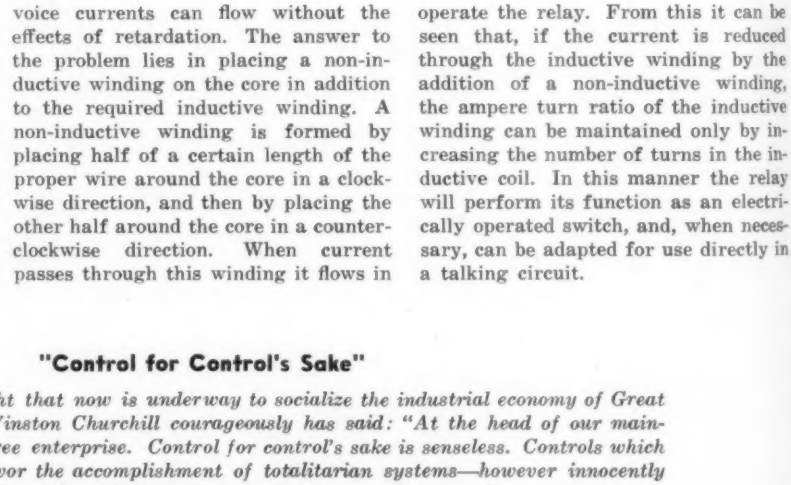


FIG. 7

"Control for Control's Sake"

In the face of the fight that now is underway to socialize the industrial economy of Great Britain, Prime Minister Winston Churchill courageously has said: "At the head of our mainmast we fly the flag of free enterprise. Control for control's sake is senseless. Controls which are in fact designed to favor the accomplishment of totalitarian systems—however innocently designed, whatever guise they take, whatever liveries they wear, whatever slogans they mouth —are a fraud which should be exposed mercilessly."

Let's Have Both Sides

"There is entirely too much hypocrisy," says Ted Crosby, "in the hackneyed complaint that business-managed utility companies engage in 'propaganda,' while their political critics engage in the same activity even more intensively and continuously. Why not admit that both sides are out to advance a given viewpoint and let the public judge its merits?

"Dissolve the fiction of hypocrisy which proponents of socialized management have assiduously built up around the use of the word 'propaganda' and applied to the purely defensive, and often pitifully inadequate, efforts of business managed companies to stay alive and continue to do business—the business of public service."

Mr. Welch answers Frenchman who criticizes the former's recent statement that the U. S. has the best and "cheapest" telephone service in the world. . . . Rural Bathtub & Toilet Administration needed according to data from U. S. farm census. . . . FCC dismisses 1943 Iowa Bell rate case.

ONE HOT afternoon last week, while Washington citizens were frying hypothetical eggs on the sizzling downtown sidewalks, your correspondent decided to escape the heat, with a few minutes' pleasant loafing, by slipping into the air-conditioned press room of the State Department. I was greeted at the door by a journalistic colleague whose beaming countenance and enthusiastic manner suggested good news.

"Fellow was in here just a few minutes ago looking for you, Welch," he shouted gayly. "Promised to fracture your skull the next time he sees you."

"That certainly was kind of him, indeed," I replied calmly, looking around for the nearest exit, as they tell you to do in the theater programs. "You didn't by any chance find out the gentleman's name, I hope?"

"Some foreign name. Looked foreign too. Tall, dark and sinister type. Probably some of your shady, black-handed past catching up with you. He left a slip on the desk over there. You'd better give yourself up to the authorities."

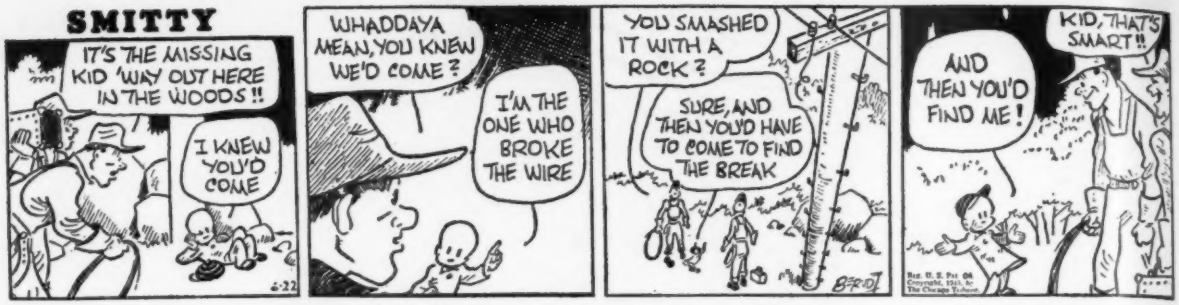
The name turned out to be "M. Lambertier," a pleasant, well-informed Frenchman visiting this country on business matters. M. Lambertier also turned out to be a very cordial gentleman, having no desire to commit mayhem on your humble correspondent. (My journalistic friend had merely been indulging in a little wishful thinking, perhaps, in this regard.) But M. Lambertier did have a beef, however, about something he had read right in this department of TELEPHONY. Seems he formerly was connected with the telephone division of the French Post Office Department.

Monsieur Lambertier objected to a statement made in this department to the effect that American telephone service is not only the best and most plentiful in the world, but also the "cheapest." He pointed out that, to his recollection, single line party service in Paris in 1939 (before the outbreak of hostilities) had cost the subscriber a monthly bill running in the neighborhood of about $3.75. This, of course, was estimated at the then current rate of exchange—when French francs were selling two for a nickel in U. S. money.

Next, he pointed out that in no city of the United States of more than 300,000 population is the monthly rate for single party residential service less than $3.75. Further, he added, in our very large cities — comparable with Paris (New York, Chicago, Philadelphia, Los Angeles) the monthly rate averages substantially higher than that. And so, Monsieur Lambertier naturally wanted to know, how come?

Well, the explanation lies in the fact that comparison of rates for utility service, or for any other consumer service or commodity, as between different countries, based on foreign exchange of the relative currencies involved, is meaningless. It is meaningless because it produces two isolated international currency quotations which have nothing whatever to do with the earning power, availability of supply, and other much more pertinent factors actually existing in the countries involved.

Maybe that last sentence is also involved. Let us look at it this way. Consider, for example, that a pound of good grade butter sold in the United States in 1939 for 40 cents. By changing your pennies into francs at 2½ cents each, you could get a pound of butter in France, at that time, for nearly half of that price—22 cents. But what good did that do the average French worker, *living in France*,—and trying to make a living there? Not a bit of good. As a matter of fact, the American worker at the average wage prevailing in the United States in 1939 could buy 1.6 pounds of butter with one


SMITTY
IT'S THE MISSING KID 'WAY OUT HERE IN THE WOODS!!
I KNEW YOU'D COME
WHADDAYA MEAN, YOU KNEW WE'D COME?
I'M THE ONE WHO BROKE THE WIRE
YOU SMASHED IT WITH A ROCK?
SURE, AND THEN YOU'D HAVE TO COME TO FIND THE BREAK
AND THEN YOU'D FIND ME!
KID, THAT'S SMART!!

(Courtesy, CHICAGO TRIBUNE)

hour's wages. The average worker in France could only buy a half-pound of butter with *his* average hour's wages. So it was with other commodities. The average hourly wage in the U. S. in 1939 would buy 7.5 pounds of bread, 2.1 pounds of beef, 35.1 pounds of potatoes, 2.6 pounds of coffee or 112 cigarettes. The comparative French average hourly wage would have bought five pounds of bread, three-quarters of a pound of beef, 18 pounds of potatoes, a half-pound of coffee, or 40 cigarettes.

And so it was with other commodities. Telephone service, of course, compared accordingly on this basis. It is for this reason that, despite the low Parisian rate (in terms merely of foreign exchange) relatively few Parisians could afford to have any telephone service at all. In Peiping, China, the 1939 monthly rate for telephone service in Chinese money figured out at about $1.25 in American money. Yet only a handful of Chinese business concerns and a few of the higher officials could afford to take this service, which otherwise was patronized largely by foreigners and foreign business interests.

Consider also that in Peiping a loaf of bread cost only one cent (American) in 1939 and average monthly house rent for natives was 50 cents a room. Cash income of the Pieping worker at that time figured out at only a little more than $2.00 a month. This would make the $1.25 monthly telephone bill seem very expensive.

Going back to European comparisons, we find that the average 1939 hourly wage of a skilled metal worker in France was 5.2 francs, in Germany about one mark, in Switzerland 1.45 francs, while in the United States it was about 60 cents an hour. Using the foregoing wage averages, the metal worker in Paris had to work 24 hours to pay for his monthly telephone bill; the Bern worker had to labor 22 hours, while the Munich worker had to put in a little more than 23 hours to manage their respective bills. Compare that to our metal worker in Washington, D. C., however (1939 monthly rate $4.75), who had to work only a little less than eight hours to pay for his unlimited residential service.

In other words, taking an eight-hour working day as a basis, metal workers in all three European cities in 1939 had to labor approximately three days to pay for a brand of monthly telephone service, decidedly inferior to what the Washington worker could pay for with less than a day's wages.

It is only by taking earning power into consideration that any intelligent international comparison of cost of living items can be made. It is for this reason that telephone service in the United States is subscribed to by more people than all the rest of the world put together. It is the availability of the commodity *in terms of what the average citizen can afford to pay for it* which is really important. Translating such monetary figures into foreign exchange has only an incidental bearing on the question of whether or not a service or commodity is expensive for the people who actually buy the same.

That is why this writer stated before, and now states again, that American telephone service is the cheapest in the world, according to the only terms under which it can be judged — the ability of the consumer to pay for the service (and therefore to patronize it). Viewed in this light, American telephone service in 1939 cost the American telephone subscriber on the average of about one-third what European telephone service cost the average European telephone subscriber. If it had not been so, far less Americans and far more Europeans would have been telephone subscribers. But fairness compels me to add that Monsieur Lambertier was not entirely convinced.

* * *

In TELEPHONY, issue of June 30, there was reprinted a sprightly editorial from the Berwyn (Ill.) *Beacon* to the effect that, since there are more farmers without bathtubs than without telephones, perhaps we ought to set up a Rural Bathtub & Toilet Administration. No figures were offered with this suggestion, aimed at the proposed federal Rural Telephone Administration. But it was enough to send your correspondent to the books for the actual figures. Here are the results not only with respect to bathtubs and toilets, but some other commodities the farmer might find handy.

The 1940 U. S. farm census shows that only 11.8 per cent of the farms in the United States had either bathtubs or showers in them. Only 11 per cent had toilets with flushing water service. Only 14.9 had mechanical refrigerators. Only 17.8 had running water of any type. Compare these totals with approximately 25 per cent having farm telephones (the number has increased considerably since then), with 31.3 per cent having electricity, 45 per cent having mortgages, and 82.8 per cent having radios.

It will be seen from this that if political friends of the farmer are bent on doing more and more for the farmer with the taxpayers' money, there are plenty of opportunities for a whole host of "rural administrations." Not only toilets and bathtubs but also running water and mechanical refrigerators could be made part of the rural aid program. These could be combined with rural telephones and rural electrification (which has already been responsible for over a half-billion REA loans). And what about renewing the farmer's radios, many of which have been worn out during the long siege of war restrictions, on batteries and tubes and other parts which could not be replaced? There ought to be plenty of votes in a Rural Radio Rehabilitation program, alone.

Of course, we already have a federal aid program for helping the farmer to pay off the mortgage. But why just *help* him to pay it off? Why not pay it off for him? The farmer probably would welcome the spectacle of Uncle Sam in the old melodramatic role of the hero who dashes in at the last moment with the necessary filthy lucre to settle up the mortgage on the old farm.

* * *

The newspaper men in Washington

finally are beginning to catch up with President Truman's sense of humor. Three times now, hand running, the Chief Executive has kidded the press boys right out of swell advance stories on cabinet changes. Now, the poor ink-stained wretches are in such a state of mind that they are skeptical even when the President says "No comment."

Right after he assumed office, the usual rash of rumors broke out covering changes for just about every member of the cabinet, especially the former secretary of labor, Madam Perkins. The President indicated that this was so much speculation, and pretty poor speculation at that. He indicated further that nothing much was in prospect so the dutiful representatives of the press started throwing wet blankets, right and left, on cabinet change gossip.

Shortly thereafter, as we know, four cabinet officers got their resignations "accepted," including Madam Perkins—the other three being Postmaster General Walker, Attorney General Biddle, and Secretary of Agriculture Wickard (the latter stepping down to become head of a subordinate business in his own department—REA).

Then came the rumors that Secretary of State Stettinius would be replaced by Judge Byrnes and that Secretary Morgenthau also would be let out. The President seemed to get a little miffed when these questions first were raised and indicated that they were not only without foundation but that if Secretary Morgenthau ever tried to resign, such resignation would not be accepted.

Newspaper men were given the idea that it really was not good taste to speculate about such fantastic and untrue reports. Then came the afternoon a couple of weeks ago when the President's secretary, Charlie Ross, former Washington correspondent for the St. Louis *Post Dispatch*, told his former colleagues of the press to "stand by" for "one of the most important announcements of President Truman's career." The newspapermen were a little cagey by that time, and one of the boys ventured the comment that "this had better be good — or there might be a second kidnapping of Charlie Ross committed around here."

The "most important" announcement turned out to be the news that Secretary of State Stettinius had resigned —later to be replaced by Judge Byrnes. Last week President Truman announced with a perfectly straight face that Secretary Morgenthau's resignation had been accepted reluctantly. The next

S/SGT. JOSEPH HUNT of Tuscoola, Ill., a member of a signal heavy construction company operating on the Western Front, carries a section of Spiral-4 telephone cable over the Sauer River at its junction with the Moselle River at Wasserbilllig, Luxembourg. S/SGT. HOBE BROWN of Philadelphia, Pa., feeds out the line from the bridge abutment. (Official U. S. Army Signal Corps Photo)

two parties teetering on the edge of the cabinet springboard appear to be Secretary of Interior Ickes and Secretary of War Stimson. But the Truman technique has the professional prophets in Washington buffaloed. They are afraid to risk a flat prediction for fear the smiling Chief Executive from Missouri will cross them up, just for the fun of it. Newspaper parties do not relish having the tables turned on them like that.

* * *

Remember way back in the early part of 1943 when the Federal Communications Commission threatened to go into the question of exchange rates in Iowa? The proceeding resulted from the move made by Northwestern Bell Telephone Co. to increase local rates in that state in the absence of state commission regulation. Spurred on by OPA, the FCC decided to investigate the proposed increase with respect to several state border communities where "interstate" traffic might give rise to FCC jurisdiction.

Shortly after that Northwestern Bell decided to withdraw the increase and since then no increases have been asked anywhere by Bell companies. But the FCC investigation still perched on the docket. Last week, the FCC decided to call the whole thing off. The case was dismissed with the notation that sometime, maybe, such an investigation well might be followed up, but not now. The only condition imposed to the dismissal was that Northwestern Bell keep the status quo and make no more moves in the direction of higher rates.

* * *

TRIVIA: Note to potential orators: The major sin of most tyro speakers, experts agree, is going too fast. In this respect President Truman has better radio delivery than Governor Dewey, although the latter excels in "modulation" (meaning departure from monotone—another major sin). Both Truman and Dewey, however, had to bow to the late FDR, acknowledged champ in this field. Speed score for all three follows: Truman, average 115 words per minute, minimum 102, maximum 128; Dewey, average 135, maximum 150, minimum 118; Roosevelt, average 105, maximum 115, minimum 97.

Truman's speed almost coincides with the "ideal" recommendation made several years ago for radio announcers by the British Broadcasting Corp. Dewey's speed is the result of natural excitement and interest in his own subject, which is not so bad or confusing as the unconscious speed reason of the beginner—timidity. Dewey has a dynamic "singing" quality which more than compensates for his rapid delivery. Truman's occasional tendency to slip into monotone would be almost deadly if delivered at Dewey's fast clip. Roosevelt's voice was well balanced in both modulation and measured pace.

>> More people should learn to tell their dollars where to go, instead of asking them where they went.—*Roger Babson*

THE PLANT MAN'S NOTEBOOK

BY RAY BLAIN • TECHNICAL EDITOR

FOR USE on local distribution frames, wire cross-connecting No. 22 twisted pair generally is considered more desirable. No. 20 gauge wire of the same type ordinarily is used for the cross-connecting of toll circuits.

* * *

At least four inches of slack should be left in all new main frame jumpers. In changing a cable pair, this slack may be used to avoid replacing the jumper. In no case, however, should a jumper wire be pulled taut on a frame or it may cause trouble.

* * *

We learn from a soldier returning from the Pacific war zone that when line tools are loaned to Chinese linemen, they always are returned in good condition.

* * *

Paper insulated submarine cables ordinarily are used where the water is of moderate depth, a large number of circuits required and the length not over 100 miles. As a rule, these cables have double lead sheaths and some have a rubber jacket over the lead.

* * *

It is believed that the use of combination type trailers will be increased in the telephone industry. The average telephone company does not, for example, have a full time need for a cable reel trailer nor for a pole trailer, but when the two are combined, their usefulness increases. This arrangement is entirely satisfactory because both types of trailers ordinarily are not required at the same time by the average telephone company. A two-ton trailer may be procured which will serve the combined purposes of a cable reel and pole hauling. It also may be provided with a body 72 ins. x 48 ins. x 5½ ins. and used for hauling bulk material.

* * *

A reader has inquired for informational reference concerning the average maximum length that 22-gauge cable ordinarily should be purchased. We suggest the following:

10 pr. L.C.	3,500 ft.
15 pr. L.C.	3,500 ft.
50 pr. L.C.	2,500 ft.
100 pr. L.C.	2,500 ft.
150 pr. L.C.	1,600 ft.
200 pr. L.C.	1,500 ft.

* * *

Aerial cable rings usually are placed 20 ins. apart on straight runs with 12-in. spacings over railroad crossings. A telephone engineer of our acquaintance suggests that rings be placed not over four or six inches apart near poles to reduce the possibility of ring cuts. This appears to be a worthwhile idea, and we wonder whether any of our readers have had experience with such an arrangement. If so, please let us have the details so that we may pass them along to others as possible benefits.

* * *

A telephone man from the Middle West questions the necessity of storm guying an open wire line. While we admit that storm loading is the controlling factor in any section of the country, we believe that storm guying often is a life saver. Long, straight sections of pole lines should be side storm guyed to prevent the swaying of the line by wind. Head type storm guys are used to prevent the collapse of a pole line longitudinally under extra stresses caused by wind and ice. Best results are obtained when head and storm guys are placed on the same pole, rather than on separate poles.

Push braces, "A" and "H" fixtures, can be used to advantage in holding these unbalanced stresses when, for any reason, guys are impracticable.

* * *

The question rises as to whether serious accidents can occur even when approved safety practices are observed. Even though all accidents cannot be eliminated by a strict observance of approved safety practices, certainly they will be reduced both in number and severity over what they will be if safety practices are ignored. We should be pleased to have our readers send us a report of all serious and lost time accidents experienced, together with an explanation of their apparent causes. This information will be compiled and passed along to the telephone industry in the belief that this analysis will permit others to take necessary precautions, thereby preventing future accidents.

Every precaution is necessary for Old Man Accident says, "I'll always be around just in case someone drops his guard for a moment. So watch for me, I'll be seeing you!"

* * *

Multiplying of pairs in local distribution cables may be defined as overlap or repeated termination of the same cable pairs at more than one terminal. Multiplying is necessary to care for probable changes in location and amount of growth with the least number of cable count changes. Also, it is needed to make the same cable pairs available at several different locations in order to provide necessary flexibility and avoid early congestion in any particular terminal or cable count.

GENERAL SYSTEM OFFICERS, DIRECTORS MEET

Standing, left to right: LOUIS E. LEGG, Coldwater, Mich., director, Michigan Associated Telephone Co.; HARRY P. KARNES, general commercial superintendent, East Central Group; CARL R. WILLIS, general traffic superintendent, East Central Group; BARCKLEY A. STOREY, Lexington, Ky., East Central Group; RAY T. KIEREN, chief engineer, East Central Group; ERNEST H. SCHILLING, Lafayette, Ind., director, Indiana Associated Telephone Corp.; HENRY R. CHRISTIANSON, vice president and general manager, Michigan Associated Telephone Co.; GEORGE D. FREEMAN, Sturgis, Mich., director, Michigan Associated Telephone Co.; LUVERNE E. ARMFIELD, personnel manager, East Central Group; FRED BRYANT, Lexington, Ky., director, Lexington Telephone Co.; LOUIS O. EVENSON, vice president and general manager, Lexington Telephone Co.; JOHN C. NICHOLS, Lexington, Ky., director, Lexington Telephone Co.; GEORGE A. GRAFFIS, Logansport, Ind., director, Indiana Associated Telephone Corp.; FRANK O. CUPPY, Lafayette, Ind., chairman, Indiana Associated Telephone Corp.; CLARENCE D. D'AOUST, general auditor, East Central Group; C. N. SESSIONS, Muskegon, Mich., director, Michigan Associated Telephone Co., and WILLIAM C. MEINKE, LaPorte, Ind., director, Indiana Associated Telephone Corp.

Seated, left to right: BURTON W. SAUNDERS, vice president and general manager, Indiana Associated Telephone Corp.; EDWIN M. BLAKESLEE, East Central Group Manager; G. HERBERT SEMLER, New York City, director, General Telephone Corp.; ROBERT A. GANTT, New York City, director, General Telephone Corp.; HAROLD V. BOZELL, New York City, president, General Telephone Corp.; PEARSON WINSLOW, New York City, director, General Telephone Corp.; THOMAS A. BOYD, New York City, vice president, General Telephone Corp., and JUDGE GEORGE R. HUNT, Lexington, Ky., director, Lexington Telephone Co.

THE boards of directors of the Indiana Associated Telephone Corp., Lafayette, Ind., Lexington (Ky.) Telephone Co., and Michigan Associated Telephone Co., Muskegon, Mich., together with several of the officers and directors of the General Telephone Corp. as their guests, made a tour of inspection of the newly remodeled headquarters' offices of the East Central Group of the General Telephone System located at Lafayette on the evening of June 19, and held a joint meeting of the boards on the following day.

The New York guests were Harold V. Bozell and Thomas A. Boyd, president and vice president, respectively, of the General Telephone Corp.; Robert A. Gantt, G. Herbert Semler and Pearson Winslow, directors of the General Telephone Corp.

One of the highlights of the two-day meeting was the luncheon given at noon on the second day in Lafayette where there was displayed and later served to the 28 present, a 30-pound baked Atlantic salmon, the gift of Russell B. Stearns, president, National Food Products Corp., and a member of the board of directors of General Telephone Corp. The salmon was caught by Mr. Stearns in the Moisie River in Quebec, Canada, and shipped to Lafayette especially for the occasion.

The board meetings were followed by a session designed to have the directors become better acquainted with staff members and at which meeting each department head demonstrated some of the more important functions and purposes of his department.

Ex-Marine Takes Over New York Company

With memories of the battles of Tulagi and Guadalcanal far behind him, Harold Andrews is busy these days in the rural areas around Reading Center, N. Y.

Mr. Andrews, one-time Corp. Andrews of the U. S. Marines, is the sole owner of the Watkins Glen-Reading Center Telephone Co. Wounded during the Guadalcanal invasion, Mr. Andrews is seeking civilian contentment in endeavoring to please the 93 subscribers of his rural communication line.

Since he took over the telephone line early in June no telephones have been out of order more than a day and many of the patrons are pleased with the improved service.

For two months prior to June, Owner Andrews worked on the line in partnership with his father. He takes pride in being a one-man telephone company and hopes, even with material limitations, to put the lines in first class condition. He hopes to add new subscribers and expand his lines to other farmers.

The young owner enlisted in the U. S. Marines in May, 1942.

During the shelling by enemy artillery while on Guadalcanal he received shrapnel wounds in both legs.

He is proud of his telephone lines, "a 40-year-old network."

"I can make a living with this telephone line," Mr. Andrews said, "as long as I have the cooperation of the subscribers. It's going to be a real telephone company if hard work will put it shipshape."

Rangoon, Burma, Telephone Service to Be Resumed

Rangoon, Burma, soon will have telephone service again, it was reported June 28.

Line laying parties are working daily through driving monsoon rain to get the system into operation ahead of schedule.

The civil telephone exchange and many outlying exchanges were blown up before the city was abandoned during the 1942 retreat.

V V

Chief Operator Resigns

MRS. MABEL THOMAS, chief operator for the Farmers' Home Telephone Co. of Gibbon, Neb., resigned recently to join her husband now stationed at Bennington, Neb.

Meet Your Fr

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No matter what pr u face operation, you may be many a possibly one of your neig s faced SOLVED them with St omatic

From his own experience he could tell Strowg meets all service requirements, efficiently mically how its modern dial service gains and ho ers—a financial stability.

For more than fifty years, this thoro ed aut solving problems for Independent telephon switch standardized units, makes it easy to me irement expand it when needed, by simply ad nits— changing needs. Its simple circuits and l desi rugged construction keep maintenance co ough r service. These facts have been PROVED nges ju

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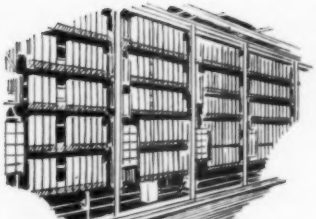
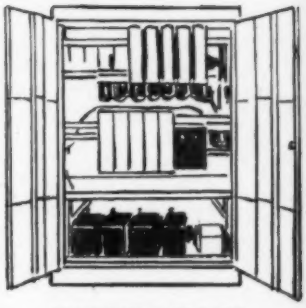
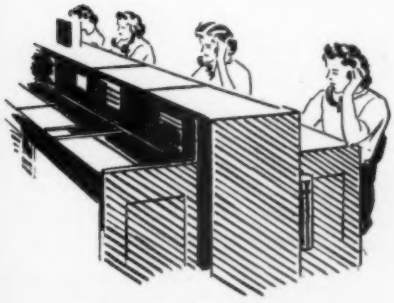


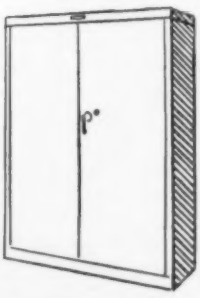
CENTRAL-OFFICE EQUIPMENT — Economically provides every wanted service, on a modern scale, in exchanges of every size, and with maximum flexibility for meeting growth or change in traffic or stations.



COMMUNITY AUTOMATIC EXCHANGES — These unattended dial exchanges make small exchanges profitable, solve the "operator problem," and improve service on both local and long-distance calls.



TOLL SWITCHING EQUIPMENT — To meet every modern operating requirement. Speeds up toll service, improves toll line efficiency, saves operating costs.



PRIVATE AUTOMATIC BRANCH EXCHANGES — Provide your business subscribers with fast dial connections on local calls, and improved service on city and long-distance calls.

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AT&T PLANS TO EXTEND SERVICE TO MOBILE UNITS

PLANS for a general mobile radio-telephone service which would bring the advantages of two-way voice communication to drivers of motor vehicles were announced June 29 by the American Telephone & Telegraph Co., New York City.

Applications have been filed with the Federal Communications Commission for authority to install radio-telephone stations in the following cities: Baltimore, Chicago, Cincinnati, Columbus, Denver, Houston, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City and Washington, D. C.

In addition, surveys are being made to determine the need for and the feasibility of mobile radio-telephone service in many other cities of the country, including Akron, Atlanta, Beaumont, Birmingham, Boston, Cleveland, Dallas, Dayton, Des Moines, Detroit, Fort Worth, Green Bay, Indianapolis, Kansas City, Little Rock, Los Angeles, Louisville, Memphis, Miami, Nashville, Newark, New Orleans, Oklahoma City, Portland, Ore., Providence, San Antonio, San Francisco, Seattle, Toledo, Tulsa and Wichita. The Bell System companies plan to make the new service available first in cities where public necessity is greatest.

Telephones on automobiles, trucks or other mobile units such as boats and barges will be connected with the general telephone system, so that a subscriber to the general two-way mobile service can talk from an equipped vehicle to any one of the millions of telephones served directly by or connected with the Bell companies. Likewise, the occupant of an equipped vehicle can be called from any one of the millions of telephones.

In general, here's how mobile radio-telephone service is expected to work in cities:

Calls to and from motor vehicles will be handled by special operators. The conversation will travel part of the way by telephone wire and part of the way by radio. If a caller at his desk wants to talk to the occupant of a certain automobile, he first dials or asks for the vehicular operator. He gives her the call number or designation of the vehicle. She sends out a signal on the proper radio channel by dialing the code number assigned to that particular vehicle. An audible or visual signal indicates to the car occupant that he is wanted. He picks up his dashboard telephone and the conversation starts. Under his fingers as he holds the telephone handset is a push-to-talk button which permits him to switch from receiving to sending.

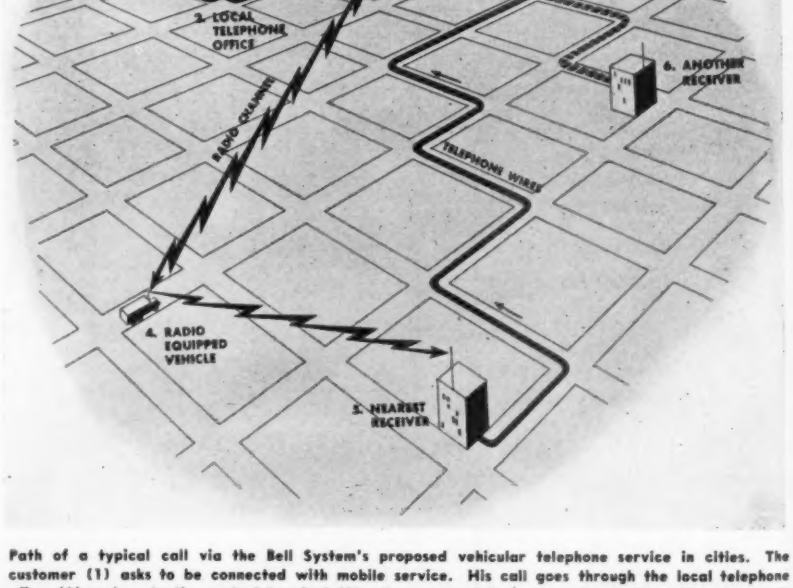
The operator of a mobile unit can originate calls merely by picking up his telephone and pushing the talk button. This signals the vehicular operator and she goes in on the line. He gives her the telephone number he wants and the call goes through.

In large metropolitan centers it is probable that a number of fixed receiving stations will be employed, located throughout the area so that the relatively low-powered mobile radio sets will be within range at all times. The receiver nearest to the mobile unit will pick up the voice signals and send them on their way by telephone wire. It is planned also to have more than one transmitter in order to give full coverage.

For years the telephone industry has furnished two-way radio-telephone service for coastal and harbor boats, ship-to-shore service for ocean-going vessels and also shipping on the Great Lakes and inland waterways. A limited two-way vehicular service has for some time been provided in New York and Boston for emergency use by certain public utilities companies.

Urban mobile service will operate as separate radio-telephone systems for each metropolitan area served. A metropolitan system will be arranged to serve not only cars, trucks, buses and harbor and river craft operating within the area, but also other mobile units such as trolley cars, elevated trains and railway engines operating within the metropolitan area.

Preliminary surveys in a large number of cities indicate that mobile service will be used initially by business concerns or individuals operating vehicles or other mobile units within metropolitan areas where it is important that headquarters keep in touch with their various drivers or vice versa.



Path of a typical call via the Bell System's proposed vehicular telephone service in cities. The customer (1) asks to be connected with mobile service. His call goes through the local telephone office (2) and on to the control terminal (3) where a special operator signals the vehicle he wants (4) by radio. The driver answers, his voice traveling by radio to the nearest receiver (5), then by telephone wires, via the control terminal (3) and the local telephone office (2) to the customer's telephone (1). If the vehicle had been in the vicinity of another receiver (6) when called, the driver's answer would have traveled through the dotted telephone line to the control terminal (3). Large cities will be served by a number of these receivers to pick up the signals of the relatively low-powered sets on vehicles.

This list includes: Ambulance services, armored car services, burglar and fire alarm services, construction contractors, doctors, express companies, food distributors (meat packers, dairies, bakeries, etc.), newspapers, oil companies, pick-up and delivery services serving department stores and other retail establishments, public service companies (electric light and power, gas, water, steam, transportation and communication), refrigerator services, taxicab companies, trucking companies, boats in adjacent rivers and harbors, and railroad switch engines.

Three classes of mobile service are contemplated:

(1) A general two-way telephone service between any regular telephone and any mobile unit, with a three-minute initial period and the usual one-minute overtime period.

(2) A special two-way dispatch service between a particular telephone at the dispatching office and specified mobile units. A direct line from the dispatcher to the telephone central office would be furnished as part of this service. A one-minute initial period and the usual one-minute over-time period probably would apply here.

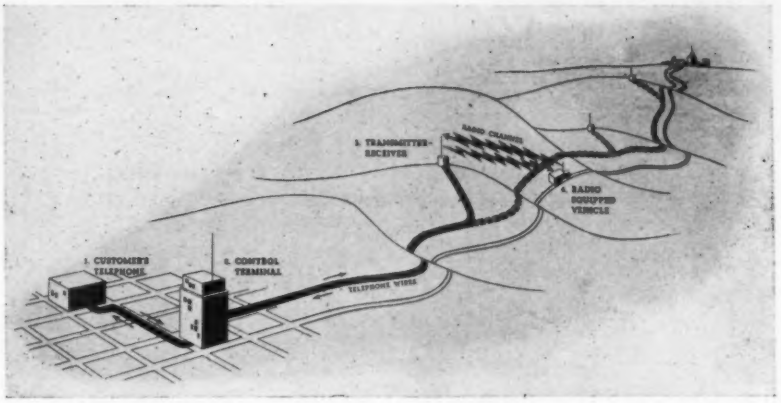
(3) A one-way signaling service to mobile units, to notify the operator of the unit that he should comply with some prearranged instruction, such as calling his office from the nearest public telephone.

Radio signals in the frequency range between 152 and 162 megacycles have been assigned for the urban mobile service. In general, transmission of these frequencies is greatly improved by mounting transmitting and receiving antennas on high buildings or on other commanding elevations.

The Bell System plan is to use transmitters of about 250-watt power in the metropolitan centers. The mobile units will have power of about 15 watts. Each mobile unit will use a single antenna for both sending and receiving.

Another type of mobile radio-telephone service which will be tried would furnish two-way voice communications to motor vehicles operating on intercity highways and to boats on adjacent waterways. This service would require transmitting and receiving stations along the highways to be served. The mobile units would be equipped for receiving and sending, and with signaling equipment similar to that to be used for urban service.

In addition to trucking companies, bus lines, long distance movers and railroads, prospective users of highway mobile service include barge line companies and towing companies operating on inland waterways, coastal shipping companies, oil and natural gas pipeline companies, and public service companies—electric light and power, gas, etc.



An artist's conception of how the Bell System's proposed two-way vehicular telephone service may work on the more important intercity highways in the postwar era. A customer (1) asks to be connected with mobile service. The special operator at the control terminal (2) routes the call over telephone wires to the transmitting-receiving station (3) which sends the signal on to the vehicle (4) by radio. A call originating at the vehicle would follow the same route in reverse. If the vehicle were beyond the range of the transmitter-receiver (3), the operator at the central terminal (2) would try the other transmitting-receiving stations farther down the highway until the driver answered the signal.

The technical and operating problems of highway mobile service are being given consideration. Introduction of that service, however, is expected to follow along after the inauguration of urban mobile service.

Widespread development of the urban service must depend to a large degree upon war conditions because manufacturers of the required apparatus are concentrating the major portion of their manpower, facilities and materials available upon war communications equipment.

Illinois Bell to Begin Radio-Telephone Tests in July

In conjunction with the nationwide interest in mobile two-way radio-telephone service, the Illinois Bell Telephone Co., Chicago, plans to begin the first tests which will culminate in the organizing of a state-wide commercial mobile two-way radio-telephone service in July.

A 60-watt frequency modulation transmitter is to be installed soon at the company's headquarters, with antennae to be placed atop a skyscraper near the lake. During the summer the company expects to carry on experimental two-way transmission with Lake Michigan shipping. By late fall, if the proper experimental licenses are granted by the Federal Communications Commission and if the War Production Board authorizes the building of equipment and its manufacture is accomplished, the company proposes to install transmitters in five cities besides Chicago.

Also, it plans to place two-way radio in company trucks and cars to begin tests which are expected to result finally in radio-telephone service that will permit the driver of any automobile to talk with any telephone connected with the Bell System.

More than 25 companies already have indicated their interest in using this service, and this group would require radio units in some 500 vehicles. The company proposes to install transmitters at Rockford, Springfield, Peoria, Champaign and Mount Vernon. The stations would have a range of about 50 miles. Cost of the transmitters is estimated at around $20,000 each and of the units to be placed in each vehicle, at least in the beginning, around $500.

V V

Pictured With General Ike

Ralph Lucier, president and general manager of the United Telephone Co., Inc., Warsaw, Ind., had his picture in an Indianapolis, Ind., paper recently. He was shown as a member of a high school football team from Abilene, Kan. Another member of the team and sitting in the same row with Mr. Lucier, was Dwight Eisenhower, now the famous General "Ike."

V V

Discuss Rural Extensions

Proposed rural line extensions were among the problems discussed June 27 at a conference of 70 supervisory employes of the Utica district of the New York (N. Y.) Telephone Co. The conference opened June 26 and ended the following day.

Order Southern Bell to Cut Intrastate Rate

The Tennessee Railroad & Public Utilities Commission on July 3 ordered the Southern Bell Telephone & Telegraph Co. to make its intrastate long distance rates conform with its interstate ones. (TELEPHONY, June 30, page 28.)

All three commissioners, Chairman Samuel S. Pharr, John Hammer and Leon Jourolmon, Jr., joined in the order.

The company was given until November 1 "to revise tariffs to correct all discrimination, either reducing intrastate toll rates to the interstate level or otherwise making the rates conform."

Answering the company's argument that the reduction would mean confiscation of its property the commission said:

"The company is in the excess profit top bracket for payment of federal income tax and the proof is that it will remain there if the toll reduction is made. We are puzzled how any property might be said to be 'confiscated' under such circumstances.

"We are of the opinion that the company is earning a fair return upon its local exchange property, more than a fair return upon its long distance property, and more than a fair return upon its property as a whole. The company asks us to increase local exchange rates if we lower toll rates. We find no reason to increase local exchange rates. Local exchange rates will remain unchanged."

The commission said that if rates are reduced to the level of interstate rates, the "net effect of this reduction upon the basis of 1944 revenue would cost the company only $41,881."

W. E. Duncan, manager of the Tennessee properties of the Southern Bell Telephone & Telegraph Co., said July 6 that company attorneys were studying the possibility of asking rehearing of the order to slash intrastate long distance rates. He declined comment on a possibility that the company eventually might appeal the commission's decision to the Tennessee Supreme Court.

V V

Authorize Indiana Companies To Issue Stock

The Indiana Public Service Commission recently granted the petition of the State Line Telephone Corp. and the Indiana Western Telephone Corp., both at Attica, asking that a true value of acquired property be fixed and the authority to issue no par value common stock be granted; the petition of the Coal Creek Telephone Corp. and the Wabash Prairie Telephone Corp. for authority to issue no par value common stock and exchange such stock for physical property owned by the Union Telephone Co., Greenfield, and the petition of the Union Telephone Co. for authority to transfer physical property to the above corporations for all of the common stock of said corporations.

The companies involved in these petitions are owned by the John T. Detchon interests.

V V

Southwestern Company Files Boundary Tariffs

The Oklahoma Corporation Commission in a journal entry dated June 25 has accepted for filing 49 exchange area boundary tariffs, setting out the boundary lines of exchanges in Oklahoma owned by the Southwestern States Telephone Co. and exchanges owned by others which adjoin these demarcation lines.

The commission journal entry states that these boundary lines do not bind the commission nor prejudice it from "hereinafter investigating the matter and fixing the boundary lines at some place other than the places fixed by the tariffs filed herein."

While the commission heretofore has fixed a few boundary lines between exchanges, its general practice merely is to file the maps defining such areas as a matter of information, without placing its stamp of approval on them. Such records are used only as a basis for information in case complaints alleging invasion of territory are filed with the commission, or it appears that some changes should be made.

The Southwestern States company, whose headquarters are at Brownwood, Tex., has 51 exchanges in Oklahoma, most of them located in the southern or southwestern parts of the state.

V V

Review Financing Methods At Michigan Bell Hearing

Pending appeal to the Michigan Supreme Court to reverse the decree of Judge Leland W. Carr of Ingham Circuit Court, invalidating rebate of $3,500,000 to Michigan Bell Telephone Co. customers in 1944, the Michigan Public Service Commission reopened hearings June 25 on telephone rates to explore possibilities of reductions for 1945. (TELEPHONY, June 30, page 26.)

The commission, with William J. McBrearty, chairman, presiding, first heard Richard A. Sullivan, Detroit utilities analyst, and James H. Lee, assistant corporation counsel, representing the interests of Detroit in the case.

Mr. Sullivan reviewed the methods of financing by various telephone companies, presenting the possibility of financing by 50 per cent in bonds and 50 per cent by stocks, to cover expansion of business. He said the Michigan Bell Telephone Co. might reduce expense by this method.

This company, in recent years, has issued no bonds, but has effected expansion financing through its connection with the American Telephone &

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Telegraph Co., of which it is a subsidiary, the witness said.

Karl F. Oehler, chief counsel of Michigan Bell, put on the record, through James M. Smith, attorney for the company, a review of the savings effected by this connection with AT&T with correlative progressive savings in rates and costs to customers. By this method, Mr. Smith said, customers of the Michigan company have been saved $4,112,000 in 12 years.

Harry C. Gretz, assistant comptroller of AT&T, presented testimony showing that while the amount paid on contract to that company by the Michigan subsidiary was less than the average for all subsidiaries during the period 1933-1943, last year the amount was above the average.

Continuing his testimony before the commission June 26, Mr. Gretz presented figures on methods of capitalization of the Michigan company through the AT&T.

"By financing through the aid of the parent company, the Michigan Bell has less outstanding obligations than it would have if financed by direct borrowing or by bond issues," he said.

"Without this arrangement the cost of expansion would have been $4,483,000 for the period January 1, 1937 to January 1, 1945, whereas, by its affiliation with AT&T, the company saved $3,710,000 during that period."

Mr. Gretz's testimony countered the contention of Mr. Sullivan that cost of financing the company would be less if put on the basis of combined stock and bond issues, instead of stock issues only combined with borrowing from AT&T.

Perry G. Allen, chief accountant of Michigan Bell, presented charts and statistics on the capitalization, business and taxes of the company for 1944 and the first four months of 1945.

Outstanding items for 1944 were: Total operating revenues, $72,712,506; total operating expenses, $47,399,841; total federal income, excess profits and other taxes, $15,646,939; net income, $9,265,266; dividend appropriation of surplus, $8,800,000.

The net income for the first four months of 1945 was $3,200,537, with a dividend appropriation of $2,000,000.

Mr. Allen denied the company's present earnings were sufficient to permit a customer refund of $3,500,000. He said the company's recovery since World War I had been very slow and its credit had suffered when it was forced to issue stock, borrow money and increase its already heavy debt ratio.

James W. Williams of the state attorney general's office, appeared as counsel for the commission.

Commenting on the case, George M. Welch, president of the Michigan Bell, said:

"The rate of earnings of this company is one-half lower than that of other industries. We see the need for a $120,000,000 expansion and improvement program after the war.

"This program would assure good service in the future and would provide jobs for 3,000 of our own employes in the armed forces, and for many others.

"We believe the facts will show that whittling away at our rates is not in the public interest."

V V

Pennsylvania Company to Issue New Bonds

The Pennsylvania Telephone Corp., with general offices at Erie, on June 29 received authorization from the Pennsylvania Public Utility Commission, Harrisburg, to issue new first mortgage bonds and stock.

The company announced plans for issuance of $5,500,000 first mortgage bonds, 2¾ per cent series, due 1975; 70,292 shares of $2.10 preferred stock, and $350,000 of common stock. The new securities will be used for refunding purposes and additions to telephone plants.

The commission ordered that about $675,000 of the cash proceeds from the sale of the securities be held in a special fund for additions and betterments to the telephone plants.

V V

Summary of Commission Rulings and Hearings

Federal Communications Commission

June 30: Granted request of American Telephone & Telegraph Co. to amend its tariffs, effective on not less than one day's notice, to reduce the rates for overseas message toll telephone service between the United States and Italy, Spain and Switzerland; to reduce rates for short period private line telephone service to Switzerland and to change the hours during which service is available; to reduce the rates for overseas channels for program transmission between New York and Rome, Madrid, and Berne; and to modify the restrictions imposed by the Italian government so as to permit calls of a social nature.

July 3: Adopted an order dismissing the proceedings in Docket 6336 for the Northwestern Bell Telephone Co. in the matter of increased charges for interstate telephone exchange service in Iowa, provided that the conditions recited in the commission's order of March 2, 1943, on the basis of which the hearing theretofore scheduled was continued, shall remain in full force and effect.

California Railroad Commission

June 26: Order issued authorizing James S. Stokes of the Redding-Stillwater Telephone Co. to discontinue telephone operations at Redding. Present subscribers will buy property and receive farmer line service from Redding exchange.

Illinois Commerce Commission

July 3: Hearing on proposed advance in rates for telephone service of the Home Telephone Co. in St. Jacob, Ill.

July 3: Hearing on proposed advance in rates for telephone service of the Moweaqua (Ill.) Home Telephone Co., stated in rate schedule ICC No. 2 rendered by the Moweaqua company.

July 3: Hearing on proposed advance in rates of the Mt. Pulaski (Ill.) Telephone & Electric Co.

July 10: Hearing on petition of the city of Rockford for an order on the Illinois Bell Telephone Co. to show cause why there should not be a reduction in rates for intrastate telephone service rendered by said company in the city of Rockford.

July 10: Hearing on proposed advance in rates of the Illinois Allied Telephone Co., Princeton, for telephone service applying to all exchanges.

Kansas State Corporation Commission

June 11: Case heard and taken under advisement on application of The Farmers Mutual Telephone Co., Burr Oak, for authority to make certain changes in rates for switching service at Burr Oak.

June 11: Order issued granting application of the Peoples Telephone Co., Lebanon, for authority to make certain changes in rates for telephone service at Lebanon.

June 29: Case dismissed against Farmers Telephone Co., Menlo; Bentley Telephone Exchange, Bentley; and Mineral Telephone Co., West Mineral, for failure to file annual report for the year 1944.

July 24: Hearing on complaint against the Southwestern Telephone Co. by J. B. Major for change of territory.

July 31: Case continued on application of the Wetmore (Kan.) Telephone Co. for authority to make changes in rates for telephone service at Wetmore and vicinity.

September 4: Hearing on application of the Cambridge (Kan.) Mutual Telephone Co. for authority to make certain changes in rates for switching service at Cambridge.

Minnesota Railroad & Warehouse Commission

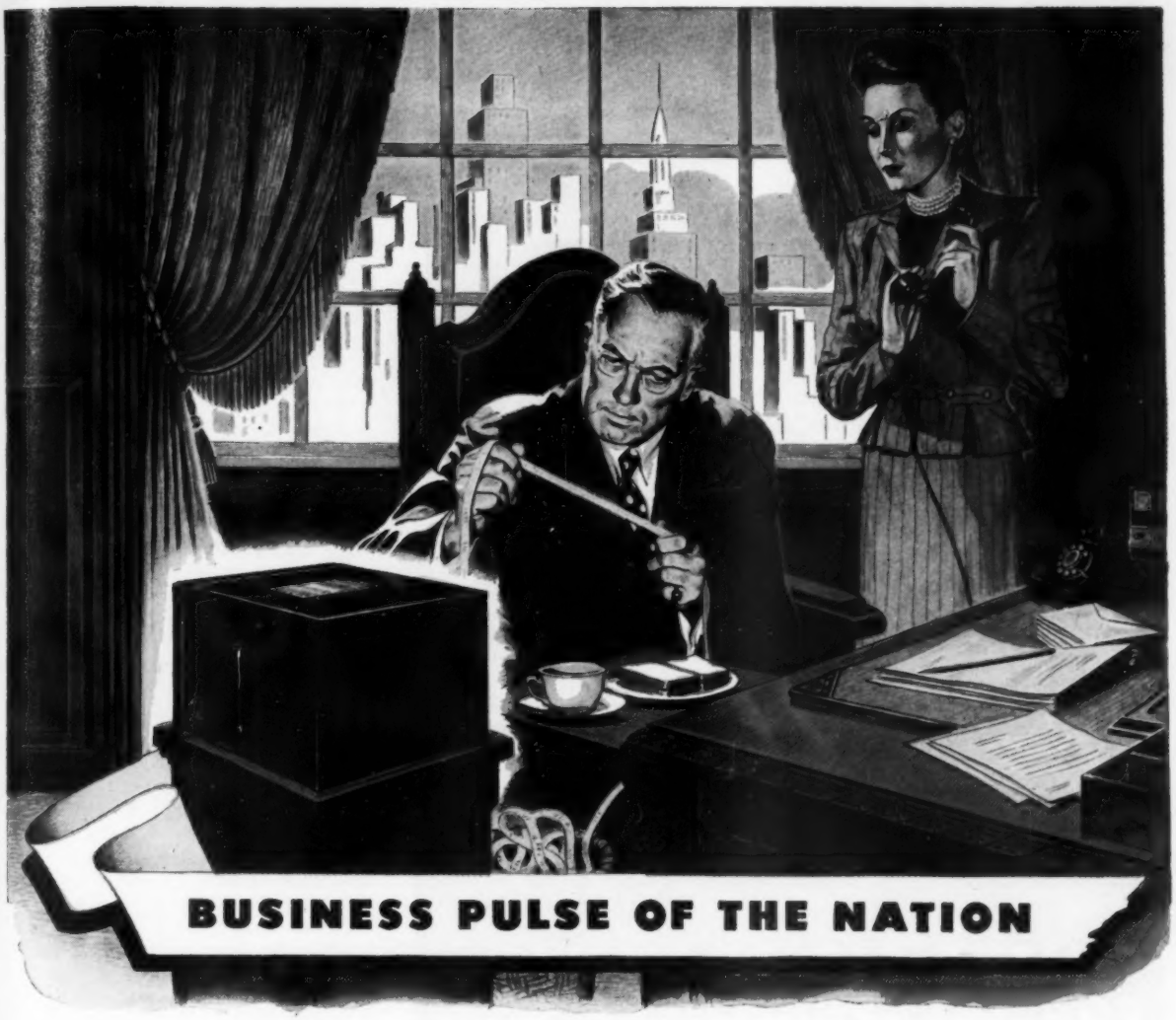
July 12: Hearing on joint application of Peter Giesler, owner, Dodge Center Telephone Exchange, seller, and J. C. Steinhagen, purchaser, for the approval of sale and transfer of certain telephone property located in the village of Dodge Center.

New York Public Service Commission

August 2: Hearing continued on case of Leon Leighton against the New York Telephone Co. to remove home extensions so that equipment could be used to fill pending applications for service.

Oklahoma Corporation Commission

September 4, 5 and 6: Hearing on application of Southwestern Associated



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Telephone Co. for increased rates at 27 of its Oklahoma exchanges.

Wisconsin Public Service Commission

July 9: Hearing at Fennimore on application of Fennimore (Wis.) Telephone Co. for authority to increase rates.

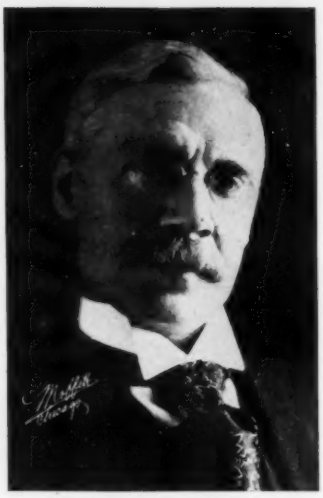
July 11: Hearing on joint application of Baldwin Telephone Exchange and Spring Valley Telephone Co. for authority to discontinue a toll circuit between Baldwin and Spring Valley.

V V

Francis Dagger Passes Away; Prominent Canada Pioneer

Outstanding among pioneers in the development of the Independent telephone service in Canada, Francis Dagger, 81, former supervisor of telephone systems to the Ontario Railway & Municipal Board at Toronto, died June 21 at his home in Unionville where he had lived since his retirement in 1934. Mr. Dagger was recognized as an authority on Independent telephone systems and in 1910 was entrusted with the responsibility of drafting the Ontario Telephone Act.

Born in Liverpool, Mr. Dagger was associated with various telephone companies in England. Arriving in Canada, he spent a year with the Bell Telephone Co. of Canada in Montreal, then devoted his interest to the Independent field as expert and adviser. He made a special study of telephone conditions on the North American continent with a view to determining the relative merits of public and private ownership. His report on the survey conducted at the request of Sir William Mulock, then postmaster general, resulted in the appointment in 1905 of a Parliamentary committee to report on telephone systems, to which Mr. Dagger was appointed technical adviser. Later he was commissioned by the governments of Manitoba and Saskatchewan to serve in an advisory capacity.



FRANCIS DAGGER

In 1910 he was appointed supervisor of telephone systems to the Ontario Municipal Board. Mr. Dagger was honorary president of the Canadian Independent Telephone Association; a member of the Charles Fleetford Sise Chapter of the Association of Telephone Pioneers of America; the Canadian Engineering Standards Association and the Independent Pioneer Telephone Association. He was president of the Canadian Cocker Spaniel Association.

Surviving are a son and two daughters.

V V

GI's In England Learn New Telephone Talk

The large group of former Bell System men and women who help maintain and operate the communications system at the Base Air Depot, Air Service Command, in the north of England, have had to learn many new phrases in order to work with civilians who handle the British telephone lines.

Everyday telephone talk undergoes great changes when it becomes "King's English." For example, if an American maintenance man finds a short circuit or ground on the ring side of the line, he reports it to his British co-workers as a "loop"—although he always has regarded a loop as a circuit in good working condition assigned to a special function.

Also, he may report his ground as "an earthing on the 'A' leg." If it is a ground on both sides of the line, he says "an earthing on both legs."

What Americans call a permanent signal, the British plant man designates as a PG, or permanent glow. Block terminals, cross boxes and manholes now have become distribution points, discases and junction boxes.

Operators manning the 30-position switchboard at the Base Air Depot have learned from the English women on the General Post Office boards to say, "Your number is engaged," instead of "The line is busy," and if you ask for 1-1-7-7, they pass it to GPO as "double-one, double-seven."

V V

Report Finances Sound

The financial condition of the Sioux Pass Farmers Exchange, Fairview, Mont., was reported as favorable at its annual meeting held recently. As soon as new instruments become available, it was stated, the present list of 40 subscribers will become greatly augmented.

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Elect B. G. Halstead Indiana Bell Official

B. G. Halstead, attorney for the Indiana Bell Telephone Co., Indianapolis, was elected secretary and treasurer of the company at a meeting of the board of directors held June 27. He assumed his new duties July 1, succeeding J. R. Ruddick who retired from active service on that date, having reached the Bell System retirement age.

Mr. Halstead is a veteran telephone man who has served continuously in the Bell System for 43 years. He started his career with the Western Electric Co., Chicago, in 1901.

He later joined the Central Union Telephone Co., predecessor to the Indiana Bell, being employed in various positions in the plant and engineering departments. When the Indiana Bell Telephone Co. was formed in April, 1920, Mr. Halstead was made appraisal engineer, and held that title until November, 1929. At that time he was appointed attorney. He has been a member of the Indiana Bar since 1915. Mr. Halstead is a member of the Telephone Pioneers of America.

Mr. Ruddick is retiring after more than 39 years in the telephone business. He started as a ledger clerk for the Chicago Telephone Co. in December, 1905, and advanced to positions of more responsibility.

In September, 1912, he went to Indianapolis as the division auditor of receipts for the former Central Union Telephone Co. When the Indiana Bell was organized, Mr. Ruddick was appointed auditor of receipts. In December, 1922, he became auditor of disbursements, and three years later was made chief accountant.

He was elected secretary and treasurer in September, 1938. He also was personnel director from January, 1939, to September, 1944.

Mr. Ruddick was president of the Bell Telephone Club in 1929, and headed the Hoosier State Chapter of the Telephone Pioneers of America for the 1931-32 term.

V V

Name L. E. Kearney Railroad Communications Engineer

Effective July 1, L. E. Kearney has been appointed communications engineer of the Communications Engineer Association of American Railroads, succeeding J. L. Niesse, who is returning to the New York Central Railroad Co. at the expiration of his leave of absence from the railroad.

Mr. Niesse, as chairman of committee No. 4—Radio and Allied Communications as Applied to Railroad Opera-

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tions, and committee No. 7—Railroads Radio Communications Services, panel 13, Radio Technical Planning Board, will continue in general supervision of the application of radio to railroad service in the interest of the member roads.

Mr. Kearney will give particular attention to research, investigations and tests relating to use of radio and allied communications in connection with railroad operations; will formulate plans to promote nationwide standardization of radio use on railroads, and will keep in touch with governmental activities which may affect this work.

For the past several years Mr. Kearney has been employed by the Federal Communications Commission and its predecessor agencies, the Federal Radio Commission and the Department of Commerce, as inspector in charge at Philadelphia, Pa., and as chief of the emergency section, engineering department, at Washington, D. C.

V V

Improved Labor Utilization Bulletin Now Available

Written from the standpoint of plant management, *Improvement of Labor-Utilization Procedures*, Bulletin No. 807, recently published by the United States Department of Labor, Bureau of Labor Statistics, is expected to prove valuable to employers in search of such procedures.

Copies of the bulletin may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. at 10 cents per copy.

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I'll be up around eight — all right?"

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If they'd spend the hours alone,
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Girls and boys, do you ever think
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Your call may use many thousands of dollars worth of equipment. Great corps of men and women are busy keeping that equipment in good working order. Yet all this requires your initial investment of only five cents. If your call is not completed, your nickel will be returned.

The pleasures created, business conducted, and even the lives saved by use of the telephone are beyond calculation. Pay telephone stations alone have handled uncounted billions of such calls. Pay telephone stations were originated and are made by The Gray Manufacturing Company, Hartford, Connecticut.

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"Hello, Mom! I'm Home!"

AT AN East Coast debarkation point the kid in a soiled O.D. uniform comes out of the barracks-like building, and he's bawling. He is big, husky—and tough. Anyone can see that. He went through the terrors of assault landings, and foxholes, and bombings; but here, today, he cried.

For that drab structure houses Telephone Exchange X — a secret center which never receives an incoming call, but from which pours day and night an endless stream of impassioned and delighted speech to parents and wives and sweethearts in every part of the United States.

In it now, jamming a square of 20 booths, are GIs like the kid, each gripping a telephone with terrific intensity, and talking, talking—making their first calls home after landing on American soil. And like him, they find it almost too much to take—the sheer joy of hearing the familiar voices, of saying at last, "Hello, Mom! Sure it's me. I'm back. Yeah, Mom . . ." They can't disclose where they're calling from, but they can say that they'll be walking in the front door about suppertime tonight.

The telephone company admits discreetly that something like 1,500 calls have been made during one 24-hour period. No booth is out of use more than 45 seconds—the time it takes the chief operator to announce over a public address system, "Corporal Smith, calling Ashtabula, Ohio, please go to Booth 4," and Corporal Smith to crush the cigarette he's been nervously smoking and dash into Booth 4. Sometimes, because lines are busy, he may have been waiting for hours.

Corporal Smith sits down tensely, and glues the receiver to his ear. Then he hears the voice—mother, wife or girlfriend—and his face lights up. He speaks with his lips almost touching the mouthpiece, in an intimacy embarrassing to watch. He turns his back to the door and crowds himself into a corner of the booth—squirming, chuckling, laughing aloud, shoving his battle helmet back on his head.

If he's like most GIs he won't talk himself out in less than seven minutes, and when he finally emerges he'll appear slightly punch drunk. If not red-eyed, he'll grin at everyone he passes, or he'll mumble to himself; or he'll be silent and dreamy with the peace that comes when you know that everyone is all right at home and nothing has changed.

The switchboard girls are witnesses to all this, and sometimes a little choked-up themselves. But none of that comes through to those at the other end of the wire. All you hear is a calm "Is this Mrs. William Smith? We have a collect call for you from Corporal John Smith. Will you accept the charges?"

There's a gasp and then a breathless "Where is he? Where is he calling from?"

The regulation answer is a formal "Due to military regulations we are not permitted to give you that information." Then perhaps, because they are human, too, the girls weaken and say, "It is not an overseas call, madam," and with that the call goes through.

Nine times out of 10 the boys are so flustered they don't remember their home telephone numbers. Although the girls warn them, please, not to talk more than three minutes—"Others are waiting, sir"—they will never break in on a soldier no matter how long he stays on the telephone. One taciturn sergeant surprised them by talking for 84 minutes. Most calls are collect, but this was not, and it cost him $45.

The girls are particularly proud of their skill in finding a boy's sweetheart or mother even if they must—to take two actual cases—trail her to a corner grocery or pluck her off a train 2,000 miles across the country. In this latter instance, the girl traced a boy's mother through a neighbor to the railway station, had a redcap search half a dozen coaches to find her, and had her at a telephone half an hour after her son had placed the call.

"We wouldn't change our jobs for anything," the girls tell you. "You see, we always bring good news." One operator likes to tell her favorite story. She placed a call, and reeled off the customary announcement giving the soldier's name, adding, "Will you accept the charges?"

A voice, dull, hopeless and uncomprehending, replied slowly:

"I wish I could, but I received word two months ago that he was killed in action."

"But he wasn't," the girl spoke up. "Why, he's standing right here beside me now."

And then there was silence, for the woman at the other end had fainted.

[Taken from a condensation in *Reader's Digest* of an article in *Coronet*.]

Albert L. Stadermann Dies; Prominent Telephone Engineer

Albert L. Stadermann, 66, former chief engineer of the Citizens Independent Telephone Co., Terre Haute, Ind., one of the best known engineers in the telephone industry, died June 29 at his home. Retiring January 1, 1944, he was the author of numerous articles published in TELEPHONY.

A. L. STADERMANN

Born in Cincinnati, O., Mr. Stadermann was graduated from Xavier College and the University of Cincinnati, where he received his degree in electrical engineering. For a period of years following his graduation he was a member of the faculty of the University of Cincinnati, and later became identified with the Kinloch Telephone Co. at St. Louis, Mo.

Going to Terre Haute in 1906, Mr. Stadermann at various times was chief engineer and secretary-treasurer of the Citizens Independent Telephone Co.; the Kinloch-Bloomington Telephone Co. with offices in Bloomington, Ill., and the Wabash Valley Telephone Co. with offices in Paris, Ill. For several years he represented the Independent telephone companies throughout the United States on its National Standards Committee at New York City.

Mr. Stadermann was a member of the American Institute of Electrical Engineers, the Independent Pioneer Telephone Association and the University Club of Terre Haute.

He is survived by his widow; a daughter and son, Maj. Howard A. Stadermann, Washington, D. C., a sister and a brother.

V V

Gets City Clerk Post

JAMES R. CARTER, manager of The Home Telephone Co., Perry, Mo., recently was named city clerk, succeeding MRS. MALONE GILL.

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DIAMOND C POLES
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The poles are treated full length under pressure with the finest and cleanest obtainable grade No. 1 Creosote Oil, a pure distillate of coal tar, in accordance with AWPA standards.

Each pole, after being carefully graded according to the physical specifications, is treated with eight pounds of creosote, or more if the customer desires.

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For strength and economy, use

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Built-in clamp on Bee Nut and Terminal Post lock wire-to-wire; vibration-proof, low resistance connection. Write for SAMPLES and data.

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Tests Everything Electrical from 100 to 550 Volts

Equipped with Neon light which tells instantly where trouble lies in circuits, fuses, cut-outs, motors, etc. Indicates hot or grounded wires. Tells AC from DC. SAVES PRECIOUS TIME. Has PATENTED safety features. Vest pocket size

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MODEL 2451

The operator's choice. One of two models. Adjustable in height. Rolled steel construction. Comfort speeds communication.

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Principles of Enduring Business

By JOHN S. ALLEN

V. Accounting Systems Prove Valuable

FREQUENTLY managers complain that the accounting systems required by the regulatory commissions ask for a lot of unnecessary information and that a great deal of time and effort must be devoted to making up the reports after the information has been secured. Good accounting is, however, of more value to management than to anyone else. Public utility accounting has been perfected to a degree far superior to anything that ever was known in any business until recent times for the express purpose of giving managers an analytical point of view on their businesses.

An accounting system is a numerical portrait of the operation of your business. What do you see on that paper-canvas when your portrayal is completed? Move away and get a full perspective. Are there sagging pouches under the listless eyes? Is the color sallow and anemic? Is the chin line weak on the profile side? Is senility creeping along with that receding hairline?

This picture is a physical likeness of your business. Careful study tells you whether or not it needs vitamins, shots of iron, liver pills, shorter hours or perhaps a tuning up tonic. A wise manager puts this drawing, when he has it completed, under a microscope and carefully examines it for unhealthy symptoms before it is in such bad shape that it has to have a blood transfusion.

Telephone Booth Use in Glasgow Hindered by Vandalism

Vandalism over the war years in Britain has prevented any immediate expansion in services despite the winning of the war. Especially is this true in outdoor telephone booths where wreckers have been active in destruction.

In Glasgow, Scotland, which probably is representative of other big cities, only about 250 of the 735 booths in the city public telephone system were fitted for resumption of outdoor lighting when it came into effect on July 15. In all the others the lighting fixtures were destroyed or stolen, making immediate resumption of telephone booth lighting impossible.

So serious has this damage been in recent years that 30 to 40 booths have been removed, after a vain effort to replace damaged fixtures. Over 10,000 panes of glass in booths in Glasgow were smashed, the vast bulk of the damage being wilful. Great damage has been done to the wiring of the booths and to the instruments.

Meantime, Glasgow is denied the use of about 500 street telephone booths after dark because of the activity of an admittedly small section of the public. Better street lighting and the return of fathers from the armed forces are expected to assist in controlling youthful rowdies while the post office also has under consideration the use of devices which will reduce the volume of damage to their equipment.

V V

Chief Operator Completes 40 Years' Service

Clara E. Brenner, chief operator of the Home Telephone Co., Durand, Wis., has completed 40 years' service. With the exception of a single year, Miss Brenner has been employed continuously at the Durand exchange. Her first position was night operator with Mrs. N. A. McMahon, as day and chief operator.

Following the resignation of Mrs. McMahon 1½ years later, Miss Brenner became chief operator, which position she still holds.

Forty years ago, the Durand exchange had a 70-drop board with about 60 subscribers. At present the exchange has a 400-drop board with about 800 subscribers.

Miss Brenner said that she has greatly enjoyed working for the public and would feel lost if she were to give up hearing the voices which come over the wires, some of which she has heard almost daily during the 40 years.

PAUL MUSSELMAN, district manager, United Telephone Co. of Pennsylvania, Chambersburg, who recently succeeded S. K. HERR, retired, to that position.

Struck by 2300 Volts, Lineman Survives

Edward L. Betz, 59, troubleshooter and repairman for the Missouri Telephone Co., Columbia, was revived by artificial respiration after receiving a 2300-volt shock June 30 from touching either a lightning-struck electric wire or wet bushes across which the wire lay.

Mr. Betz, called by a housewife to repair a wire which had fallen in a wooded lot near her home following a lightning storm, put his hand among the wet bushes and received one side of the 2300-volt circuit, a repairman reported. He added that shock received from both sides of the circuit would have been fatal.

TERMINOLOGICAL ADVICE

If she wants a date, *meter*.

If she wants a call, *receiver*.

If she wants an escort, *conductor*.

If she wants to be an angel, *transformer*.

If you think she goes out with others, *detector*.

If she eats too much, *reducer*.

If she is wrong, *rectifier*.

If she is cold, *heater*.

If she wants a vacation, *transmitter*.

If she talks too much, *interrupter*.

If she is narrow in her views, *amplifier*.

If she has wrong ideas, *corrector*.

If she flirts, *eliminator*.

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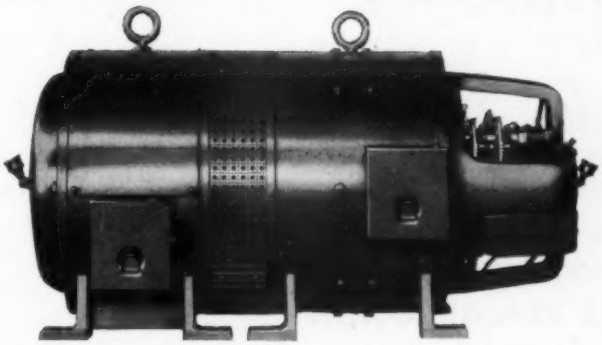

. . . because of its' inherent CHARACTERISTICS, provides fully for all these vitally essential features insuring peak efficiency, maximum life and minimum charging costs for TELEPHONE EXCHANGE BATTERIES.

Diverter-Pole Generators are an exclusive E.P. design. Available in all standard voltage and ampere capacities from 10 to 2000 amperes, they are specially designed for telephone charging service. X-2

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FAIRFIELD, IOWA

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HAND PHONES

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Sharper, Clearer
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This receiver reproduces voice tones with remarkable fidelity. With exceptional sensitivity is combined strong, solid construction that guarantees long service.

Modern stream-lined design, molded in black bakelite. Resistance, 80 ohms.

Murdock Precision Products:

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Push Buttons
Plugs
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Radio Phones

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186 Carter St., Chelsea 50, Mass.

Best Story of the Week — What's Yours?

Mayme Workman, traffic editor of TELEPHONY and author of "The Operator's Corner," heard an amusing story about a victory garden while working in the exchange of the Middle States Telephone Co. of Illinois at Pekin.

Betty, a victory garden enthusiast, was perturbed because her onions were not growing. Imagine her chagrin when she learned she had planted her onions upside-down.

"I thought those sprouts were roots," said Betty.

Redeployed GI's Get Special Telephone Service

R. H. Bailey, group manager of the Carolina Telephone & Telegraph Co., Fayetteville, N. C., recently announced the installation of personalized telephone service for men being redeployed through Fort Bragg, N. C.

The new service, which includes a separate switchboard and eight telephone booths, has been installed in the personnel center through which hundreds of soldiers pass daily. Comfortable places have been provided for the men to wait for their calls to be put through, with magazines and books being available and writing paper and postal cards distributed free.

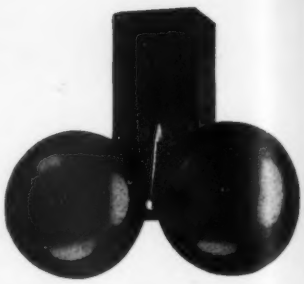
All long distance calls are placed with the operator who handles the calls with a toll operator at Fayetteville. Five full-time attendants man the switchboard, and the station is supervised by Amy Pate of Wilson, N. C., chief operator at Fort Bragg. Josephine Adams of Angier, N. C., is operator in charge at the station.

Owned and operated by the Carolina telephone company, the center uses army owned cables to the reservation limits under the company's license with the government. The company also operates and maintains the government-owned administrative telephone system at Fort Bragg under the supervision of the post Signal office.

V V

Prisoners of War Aid Reconditioning Work

Neil Schreck, manager of the Bertrand (Neb.) Telephone Co., Inc., announced recently that work has begun on the erection of a fireproof brick building to house the dial equipment which is to be installed later. The company recently was authorized an increase of rates contingent upon the change of type of service and enforce-



Suttle Loud Ringing Extension Bell

This is an excellent bell for solving the needs of the subscriber in the garage, lumber yard, print shop, machine shop, or such place, who needs an extra loud telephone signal.

It is an all-metal outfit with deep-skirted, specially tempered six-inch gongs. Equipped with a special heavy ringer movement wound for either 1000 ohms or 1600 ohms.

Cat. No. 199 — Wound for either ohms, weighs 13 lbs. each—$7.45.

DEPEND ON SUTTLE

ELECTROX
BATTERY ELIMINATOR
GIVES WORRY-FREE SERVICE

Operates direct from lighting circuit. Delivers constant, humless D.C. to operator's circuit on magneto switchboard. Power-off relay assures uninterrupted service in case of power failure. Low in cost! See your jobber, or write direct for full information.

SCHAUER MACHINE COMPANY
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able when completed. (TELEPHONY, May 19, page 27.)

In the meantime, the company has been rebuilding its rural lines. Because of the shortage of labor, prisoners of war are being employed in the reconditioning work.

V V

OBITUARIES

ARTHUR J. ROBINSON, 60, president of the Elyria (O.) Telephone Co., died at Elyria Memorial Hospital June 25.

He had been associated with the Elyria Savings Co. for 40 years and had been its president since 1934. He was chairman of the Elyria War Price & Ration Board, a director of the Colson Corp. and a former treasurer of the Elyria Chamber of Commerce.

* * *

CHARLES J. HALVERSON, 67, former secretary and manager of the Thompson (Ia.) Mutual Telephone Co., died at his home June 13 following more than a year's illness.

He is survived by his widow, one son and a granddaughter, five sisters and one brother.

* * *

ALICE M. CALLAHAN, 60, retired supervisor of the New York Telephone Co. at its Utica exchange, died June 24, in her home after a six-month illness.

Miss Callahan for 40 years was employed by the New York Telephone Co. as a training supervisor. Her work took her throughout the state, particularly during the period when telephones were changed from manual to dial operation.

She was one of the pioneers in instruction of the dial system when the change was made in Utica in December, 1927. She retired two years ago.

Miss Callahan is survived by two nieces, two nephews and several cousins.

Twelve Things to Remember

(1) The value of time.
(2) The success of perseverance.
(3) The pleasure of working.
(4) The dignity of simplicity.
(5) The worth of character.
(6) The power of kindness.
(7) The influence of example.
(8) The obligation of duty.
(9) The wisdom of economy.
(10) The virtue of patience.
(11) The improvement of talent.
(12) The joy of originating.

—Marshall Field.

STROMBERG-CARLSON
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HEMINGRAY INSULATORS

Favorably Known Since 1870

HEMINGRAY No. 16—Has square groove which provides substantial support for line wire.

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. . . is insured in every Hemingray Insulator. Exacting laboratory control—every batch of glass is checked *hourly* with precision instruments.

That's why Hemingray Insulators are still in service after 20, 30—even 50 years. Hemingray Insulators never fail to give dependable, long-life service.

Insist on Hemingrays for low operating costs.

The CHURCHILL

No. 100 Folding Door TELEPHONE BOOTH

Booth provides comfort and privacy for your customers. You will find them repeatedly returning to use your **CHURCHILL** Booth and increase pay station business.

It is constructed as a single unit and equipped with a reinforced back panel for mounting a wall telephone or coin collector.

The **CHURCHILL** Booth is made of selected white oak and is available in light or medium oak in a satin finish.

Included as standard equipment are electric light and automatic electric ventilator.

Overall height is 84¾"; width, 29"; depth, 30½". Shipped knocked down and crated.

Illustrated literature available.

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Set Up Communications At Okinawa

Thanks to American Signal Corps men who work within 2,000 yards of the fighting front, Okinawa now has an elaborate communications system.

More than 200 Signal Corps men landed on Okinawa within four days of the April 1 invasion, and by May 31 had put up 250 miles of wire, Col. Arthur Pulsifer of Middleton, N. Y., 10th Army Signal Corps officer, told a recent press conference. More than 5,000 tons of signal equipment had been landed.

The Americans made extensive use of Japanese poles, but not of Japanese wire, which is inferior and unsuitable for military purposes, Colonel Pulsifer stated.

"We expected communication needs to be great but they have been even more than we anticipated," Colonel Pulsifer said. "Army headquarters, alone, has a telephone system equivalent to that in a town of 7,500.

"One field switchboard handles 7,500 calls from 8:00 a.m. to 5:00 p.m. daily with a single operator taking 2,500 calls a day.

"The military uses 2½ times as much equipment as civilians because it is free. Okinawa mud and rain, limiting ground operations, contributed to the tremendous reliance upon telephone communications."

Colonel Pulsifer said his crews, working within 2,000 yards of the front, had to contend with such incidents as an infantry decision to burn down a dirty old Okinawan hut, not knowing that Signalmen were using it. Twenty-five trunk lines were knocked out and repairs required 1½ hours.

V V

Barco Gets Army Air Forces Approved Rating

The United States Army Air Forces have granted an approved quality control rating for outstanding quality, inspection procedure and control to Barco Manufacturing Co., Chicago, which manufactures aviation devices and supplies the air forces with parts for B-29 super-fortresses, F. N. Bard, company owner, recently announced. Barco also is a well-known manufacturer of portable gasoline hammers.

V V

Schollhorn Appoints J. H. Bradford Sales and Advertising Manager

James H. H. Bradford recently was made sales and advertising manager of the Wm. Schollhorn Co., New Haven, Conn., manufacturers of Bernard pliers and special purpose tools. Mr. Bradford joined the Schollhorn company after serving as a captain in the Army Air Forces.

Mr. Bradford, a graduate civil engineer of Cornell University, established the Howe Co., Springfield, Mass., which manufactured a line of painters' supplies and accessories, sold through hardware jobbers, after being employed as a sales executive for General Motors in their car, truck and refrigeration divisions. He also has served in the capacity of sales manager for the Adding Machine Division of the Todd Protectograph Co. of Rochester, N. Y.

V V

Templeton, Kenly Issues New Simplex Catalog

Users of lever and hydraulic jacks will find practical help on their maintenance and care in the new 48-page repair and maintenance catalog No. 45, recently issued by Templeton, Kenly & Co., Chicago.

The repair parts for the various types and sizes of Simplex Jacks are illustrated and listed, and a complete list of interchangeable parts is included. The book facilitates the ordering of replacement parts, and presents, with suitable illustrations, valuable suggestions for the maintenance, lubrication and repair of Simplex Jacks.

The catalog may be obtained by writing Templeton, Kenly & Co., 1020 S. Central Ave., Chicago 44, Ill.

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WANTED—ENGINEERS: Class A telephone company operating in Middle West offers real opportunities to a plant engineer and a transmission and protection engineer. Applicants must be thoroughly qualified or have background ensuring rapid progress. Exceptional present and future prospects. Full particulars and qualifications to be given in first letter. Write Box 2174, c/o TELEPHONY.

WANTED: Several men to rebuild magneto switchboards. Good working conditions and wages, steady postwar work. Write, or call, Telephone Repair & Supply Co., 1760 Lunt Ave., Chicago 26, Ill. Telephone Rogers Park 3818.

WANTED: Assistant to General Manager for large telephone property. Must have executive ability and administrative experience. In application furnish information as to age, education, experience, present employment, draft status, small photographs, recommendations, etc. Write Box No. 2166, c/o TELEPHONY.

WANTED: Plant Superintendent for large telephone property. Good salary for man having qualifications. In replying, furnish complete information as to age, education, experience, present employment, draft status, small photograph, recommendations, etc. Write Telephone Services, Inc., 16th Floor, Lincoln Tower, Fort Wayne 2, Ind.

HELP WANTED

WANTED: Two competent all around telephone men for West Coast Independent company. Steady work if satisfactory. Give full particulars, age, etc., and wages expected first letter. Write Box 2177 c/o TELEPHONY.

WANTED: Combination plant man able to maintain both inside and outside plant of either common battery or magneto exchange. Opportunity for permanent employment and good wages. Give age, experience, draft status and availability. Write Oklahoma Telephone Co., Broken Arrow, Okla.

WANTED: Telephone Accountant—qualified to supervise all phases of telephone accounting for Class A companies. Give full information as to age, experience, draft status, etc. Attach small photograph. Write Telephone Services, Inc., 16th Floor, Lincoln Tower, Fort Wayne, Indiana.

POSITION WANTED

WANTED: Permanent work by married man with two children. I am 39 years old and have had 21 years' experience in manual and automatic installation from station to switchboard, including local testing. Prefer outside work. Available on short notice. Write Box No. 2179, c/o TELEPHONY.

Telephone Company Tells Mother of Baby's Cries

An Ohio housewife, washing clothes in the basement of a two-family house, was startled when an Ohio Bell Telephone Co. repairman, after ascertaining that she lived on the second floor, said that her baby was crying. Seven-month-old Danny had been left amusing himself in his play pen and she could hear no sounds of distress from him.

At the repairman's insistence, the mother flew upstairs to find a howling Danny, flat on his back in the pen, the telephone lying on the floor nearby. The child had grasped the telephone cord through the bars of the play pen, pulling the instrument to the floor. When the receiver remained off the hook, a testman in the dial central office investigated the line and heard the infant's frightened cries.

This was at 11:25 a.m. At 11:27 a.m., the repairman, working in the next block, made a routine call to the test desk and, six minutes later, reported the news to the mother.

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FOR SALE: Kellogg common battery PBX switchboard, 50 line capacity; 50 equipped, 10 cord pairs equipped, five trunks equipped; used 30 days. Write Hawkins Telephone Co., Hawkins, Tex.

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Kellogg, Dean, W. E. Monarch, Stromberg or Am. Elec. Composition Mouthpieces. (New) @	.08
Dean Talk Through Repeating Coils @	.75
Kellogg No. 1025 C. B. Lineman test set, all metal type with 2 Cond. cord less test clips @	4.25
Western Elec. No. 1001-C all metal hand set with push Button in handle, complete with 3 Cond. Cord @	5.00
Western Elec. No. 2c Ball type drops and jacks per strip of 5 @	8.25
Western Elec. No. 22c Shutter type line drops and jacks per strip of 5	10.50
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48 Volt Swbd. Lamps per 100	5.00
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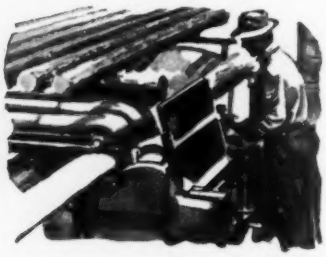

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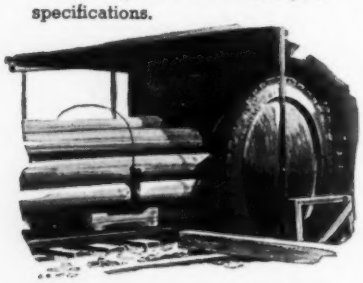

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Michigan Pole & Tie Co.	40
Morley Co., The	—
Moss Tie Co., T. J.	—
Murdock Co., Wm. J.	38
National Carbon Co., Inc.	9
National Fireproofing Co.	—
National Telephone Supply Co.	31
North Bros. Mfg. Co.	—
North Electric Mfg. Co.	Back Cover
Oliver Iron & Steel Corp.	—
Overton Co., S. E.	—
Owens-Illinois Glass Co., Hemingray Division	34, 39
Page & Hill Co.	—
Paragon Electric Co.	—
Partridge Lumber Co., T. M.	40
Pensacola Creosoting Co.	40
Perfect Paint Sales	—
Phelps Dodge Copper Products Corp.	—
Philco Corp. (Battery Division)	12
Plastic Wire & Cable Corp.	—
Porcelain Products, Inc.	—
Premax Products, Inc.	—
Raytheon Mfg. Co.	43
Ray-O-Vac Company	—
Rebuilt Electric Equipment Co.	41
Reliable Electric Co.	7
Remington Rand, Inc.	10
Rhodes & Sons, M. M.	—
Roeblings Sons Co., John A.	—
Runzel Cord & Wire Co.	—
Schauer Machine Co., The	38
Schollhorn Co., Wm., The	—
Seymour Smith & Sons, Inc.	—
Sloan and Cook	—
Stromberg-Carlson Company	2, 3, 35, 39
Sturgis Posture Chair Co.	—
Suttle Equipment Co.	38
Sylvania Electric Products, Inc.	—
Taylor-Colquitt Co., The	—
Telephone Repair and Supply Co.	—
Templeton, Kenly & Co.	—
Toeppen, Manfred K.	40
Union Carbide & Carbon Corp.	9, 29
United States Motors Corp.	—
United States Steel Corp.	—
United Transformer Corp.	—
Vulcan Electric Co.	—
Webster Electric Co.	—
Western Electric Co.	—
Weston Electric Instrument Corp.	8
Whitney Blake Co.	—
Williams, A. W., Inspection Co.	40
Wiremold Co., The	—
Wood Preserving Division, Koppers Company	42
Wray & Co., J. G.	40
York-Hoover Corp.	—